



ANALYSING THE PROBLEM OF FINDING NEW CASES OF GRADE 2 DISABLED LEPROSY

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ABSTRACT

The proportion of new leprosy cases with grade 2 disability in Lamongan Regency tends to increase and exceeds the programme target of <5% in 2019-2021. The discovery of new leprosy cases with grade 2 disability will illustrate the delay in early detection, resulting in a decrease in the quality of life of leprosy sufferers. Objective: The purpose of this study is to analyse the problem of delayed case finding of grade 2 disability in Lamongan District. Method: This study was a descriptive observational study. There were 9 informants in this study, namely, 1 person in charge of the leprosy programme at the Health Office, and 8 people in charge of the programme at the Puskesmas level. The methods used in identifying health problems were document study, brainstorming, USG (Urgency, Seriousness, Growth) method, and fishbone diagram. Results: Knowledge has an important role in determining a person's attitude, knowledge shows the intelligence that allows a person to act appropriately, quickly and easily in making decisions. Patients' lack of knowledge about the early symptoms of leprosy leads to inappropriate actions, so there are still new cases of leprosy with grade 2 disability in Lamongan Regency. Not only the patient's knowledge, but good family knowledge is also expected and is able to make appropriate leprosy treatment efforts. Awareness will grow in the family to make treatment efforts if the family has good knowledge. Conclusions: The priority problem in finding new cases of leprosy with grade 2 disability in Lamongan Regency is the lack of knowledge of patients and their families, which results in inappropriate behaviour when experiencing the first symptoms of leprosy.

Keywords: grade 2 disabled leprosy; knowledge of leprosy symptoms; leprosy

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INTRODUCTION

Leprosy is a chronic infectious disease caused by the *Mycobacterium leprae* germ. Leprosy was first discovered by G.H Armauer Hansen in 1873. *Mycobacterium leprae* germs from nasal secretions can survive up to 9 days (in tropical climates) outside the human body. Optimal growth of *Mycobacterium leprae* germs in vivo conducted in mice can be gradual at temperatures of 270-300 C. Leprosy transmission occurs in humans and is found in the human nasal mucosa. Transmission occurs when intact (live) *Mycobacterium leprae* leaves the body of a leper and enters the body of another person through the upper respiratory tract and prolonged skin contact (Menteri Kesehatan RI, 2019). Based on the Sustainable Development Goals (SDGs), infectious diseases are one of the main focuses of study in the health sector. One of these infectious diseases is leprosy. In the SDGs action plan book issued by Bappenas

in 2020, one of the targets of the SDGs action plan in the health sector in Indonesia is to end the epidemics of Acquired Immune Deficiency Syndrome commonly known as AIDS, Tuberculosis commonly known as TB, malaria, and tropical diseases such as filariasis and leprosy (Bappenas, 2020).

Data from WHO in 2021, the number of new leprosy cases globally shows that Indonesia is the third country with the highest number of new leprosy cases after India and Brazil. The first rank is India with 75,394 new leprosy cases, the second rank is Brazil with 18,318 new leprosy cases, and Indonesia with 10,976 new leprosy cases (WHO, 2021). The situation of leprosy cases in Indonesia can be seen from the number of new leprosy cases found in 2021 of 10,976 cases with a Case Detection Rate (CDR) or the rate of finding new leprosy patients of 4.03 per 100,000 population, this figure is lower than in 2020 of 11,173 cases with a CDR of 4.12 per 100,000 population. In 2021, East Java Province was the province that ranked first with 1,696 new leprosy cases with a CDR of 4.22 per 100,000 population (Kementerian Kesehatan RI, 2021).

East Java Province also ranked first in Java Island in the discovery of new cases of leprosy with grade 2 disability at 4.08 per 1,000,000 population (Indonesian Ministry of Health, 2021). Lamongan Regency ranks eighth for the number of new leprosy cases in East Java Province with 81 cases and there are also new cases of leprosy with grade 2 disability (East Java Provincial Health Office, 2021). The proportion of new leprosy cases with grade 2 disability in the Lamongan District Health Office can be seen in Figure 1:

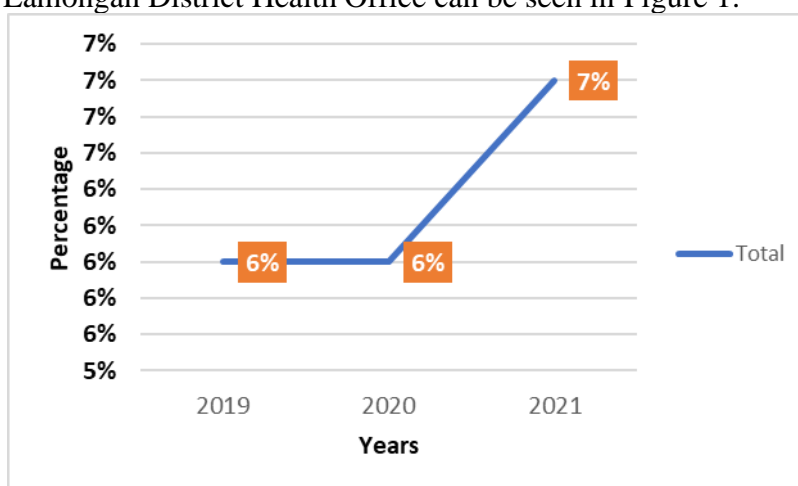


Figure 1. Proportion of New Leprosy Cases with Grade 2 Disability in Lamongan District Health Office 2019-2021

Figure 1 shows that the proportion of new leprosy cases with grade 2 disability in Lamongan Regency tends to increase and exceeds the programme target of <5%. Disability in new leprosy cases with grade 2 disability can be caused by leprosy reactions that can occur in every leprosy patient due to poor treatment. These reactions can occur before diagnosis, at the time of diagnosis, during treatment and after treatment (Kamal & Martini, 2015). Leprosy reactions are events of acute hypersensitivity characterised by worsening of previous lesions or the appearance of new lesions (Froes et al., 2022).

The problems arising from the late discovery of new cases of leprosy with grade 2 disability suggest that an assessment of the problem is needed. This can be used as a basis for developing effective leprosy disability prevention strategies by stakeholders. If the existing

leprosy disability problem continues to receive insufficient attention, more and more new leprosy patients will be detected late and end up with disability, resulting in a decrease in their quality of life. Based on this, it is necessary to conduct research needs to be conducted by analysing the problem of delayed case finding of disability level 2 in Lamongan Regency, prioritising the problem using the (Urgency, Seriousness, Growth) method and determining the root cause of the problem using a fishbone diagram.

METHOD

This study was a descriptive observational study conducted at the Lamongan District Health Office on 02 January 2023 to 27 January 2023. There were nine informants in this study, consisting of one person in charge of the district level leprosy program and eight people in charge of the leprosy program from Babat Health Centre, Brondong Health Centre, Karanggeneng Health Centre, Lamongan Health Centre, Pucuk Health Centre, Sambeng Health Centre, Sumberaji Health Centre, and Turi Health Centre. The stages in identifying health problems at the Lamongan District Health Office include:

1. Researchers conducted a document study to determine the disease programme to be identified. The documents used as literature were the Lamongan District Health Office Profile from 2019 to 2021 and supporting data from the person in charge of the Leprosy programme.
2. Researchers identified problems using the brainstorming method, then scored each problem using the USG (Urgency, Seriousness, Growth) method to determine the priority of the problem.
 - a. Urgency (Issue urgency) the problem must be solved immediately with regard to time availability
 - b. Serousness (issue seriousness) how serious a problem can lead to other more serious problems.
 - c. Growth (the seriousness of the issue) how serious a problem can lead to other more serious problems (the development of the issue) i.e. the possibility of the problem growing worse if it is not addressed.

Furthermore, the top priority problems will be re-identified using a fishbone diagram to analyse the root cause of the problem. Root cause analysis is a popular and frequently used technique that comprehensively identifies the origins of problems using a series of steps with bound tools to find the root cause of the problem. This modelling is based on the Ishikawa Diagram (Fishbone Diagram) used in 1960 by Kaoru Ishikawa (Kurniawan & Budhi, 2017).

3. The researcher draws conclusions and develops appropriate recommendations for leprosy prevention and control.

RESULTS

Problem Identification

The identification of health problems aims to collect the problems that exist in the prevention and control of leprosy programme in Lamongan District. The brainstorming was conducted using an online form, where all informants filled in the problems through the online form. The problems obtained included:

Table 1.
Results of the Leprosy Programme Health Problem Identification at the Lamongan District Health Office

No	Problems
1	Long distance between home and health services
2	Lack of knowledge about leprosy and self-care among patients
3	Lack of cross-sectoral role in leprosy programme management
4	Discrimination and stigma from the community are still high
5	Delay in detecting contact cases
6	Lack of funding for early tracing and leprosy programme implementation
7	Patients do not understand the early symptoms of leprosy, so they only seek medical attention when they are already disabled
8	Lack of family and community awareness about leprosy so they tend to be ostracised
9	Lack of training for leprosy programme holders and doctors at health centres
10	Economic problems of leprosy patients due to disability who cannot work
11	Lack of knowledge of cadre officers on how to detect leprosy cases
12	There are no special rewards to encourage leprosy programmers to carry out their duties.
13	Contact examination is still not optimal because there are patients who are not willing to have their intensive contact examinations carried out
14	Patients are still closed-minded about their disease, making it difficult to accept suggestions from others
15	Post-treatment patient assistance has not been maximised

Problem Prioritisation

Problem prioritisation is an important part of the problem-solving process because of the limited resources available, making it impossible to solve all problems. Then a problem is also interrelated with other problems. The purpose of problem prioritisation is to select the most important problems that should be solved first. The scoring method used in determining the main problem or priority problem of finding new cases of leprosy with level 2 disability in Lamongan Regency is the USG method. The scoring value is on a scale of 1 to 5, which is from very small to very large scale. The following are the results of scoring on each problem that has been assessed by informants:

Table 2.
Results of Prioritisation of Health Problems in the Leprosy Programme at the Lamongan District Health Office

Problems	U	S	G	Total UxSxG	Rank
Patients do not understand the early symptoms of leprosy, so when there is a defect, they only check it out	31	30	31	28830	1
Discrimination and stigma from the community is still high	33	29	30	28710	2
Economic problems of leprosy patients due to disability who cannot work	30	29	29	25230	3
Lack of awareness from family and community about leprosy, so they tend to be ostracised	28	28	29	22736	4
Lack of funding for early tracking and leprosy programme implementation	27	29	29	22707	5
Lack of patient knowledge about leprosy and self-care methods	28	28	28	21952	6
Lack of cross-sectoral role in leprosy programme management	27	29	28	21924	7
There are no special rewards to encourage leprosy programmers in carrying out their duties.	27	28	29	21924	8
Patients are still closed-minded about their disease, making it difficult to accept advice from others	22	30	31	20460	9

Problems	U	S	G	Total	Rank
				UxSxG	
Lack of knowledge of cadre officers on how to detect leprosy cases	25	27	26	17550	10
Contact examination is still not optimal because there are patients who do not want to be intensively contact examined.	25	25	28	17500	11
Lack of training for leprosy programme holders and doctors at health centres	27	24	27	17496	12
Post-treatment patient assistance is not maximised	23	25	26	14950	13
Delays in detecting contact cases	21	23	24	11592	14
Distance between home and health services	19	20	22	8360	15

Table 2, it shows that the problem that received the highest score and is a priority problem is that patients do not understand the early symptoms of leprosy, so when there is a defect, they only check it with a total score of 28830.

Fishbone Diagram

Root cause analysis is conducted to identify the causes of a problem. The prioritised problem is "patients do not understand the early symptoms of leprosy, so when there is a defect, they are only examined". To identify the root causes of the prioritised problems, a fishbone diagram was used. The following are the results of the fishbone diagram:

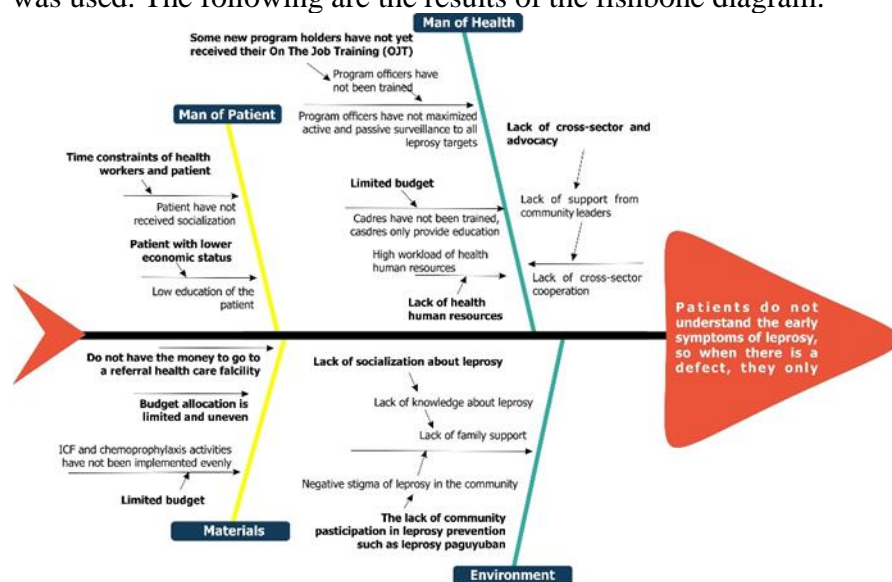


Figure 2. Fishbone Diagram

The results of the fishbone diagram show that the root cause of the priority problem "patients lack understanding of the early symptoms of leprosy, so that when there is a new defect being examined" can be identified from man, materials, and environment. Man shows that the average sufferer is a low-income person, there is a lack of Human Resources for Health (HRH), there is no meeting that facilitates cross-sectors, some programme holders have not been trained, and the budget is limited. materials show that the root cause of the problem is that sufferers do not have the money to go to referral health facilities and the budget allocation for leprosy is limited and uneven. While the environment shows that there is a lack of community participation in leprosy prevention.

DISCUSSION

Identification of health problems in the discovery of new cases of leprosy with grade 2 disability is necessary because it relates to delays in detecting cases early. Based on the results

of the scoring using the ultrasound method, the priority problem is that patients do not understand the early symptoms of leprosy, so when there is a defect, they only check. This priority problem is related to a person's knowledge about leprosy. According to research conducted by (Koli et al., 2021) stated that a person's knowledge is influenced by the level of education, the higher a person's education, the broader his understanding and knowledge. Leprosy is known as "The Great Imitator Disease" because this disease is often not realised because it has symptoms that are almost similar to other skin diseases.

Good knowledge will change a person's perception and attitude towards leprosy. People believe that the symptom of "numb patches" and consider the disease to be a common skin disease is evidence that knowledge about leprosy is not correct. The impact of this situation is that patients do not respond quickly to health care efforts (Yulita et al., 2022). Knowledge has an important role in determining a person's attitude, knowledge shows the intelligence that allows a person to act appropriately, quickly and easily in making decisions. Patients' lack of knowledge about the early symptoms of leprosy affects inappropriate actions, so there are still leprosy cases with grade 2 disability in Lamongan Regency (Carbadi et al., 2022). In addition to patient knowledge, good family knowledge is also expected and is able to make appropriate leprosy treatment efforts. Awareness will grow in the family to make treatment efforts if the family has good knowledge (Nur et al., 2019). If a family member is ill the family will also care for the individual and provide the care needed to be healthy.

There are four types of emotional support, instrumental support, informative support, and appreciative support. Forms of support provided by the family are encouragement, motivation, giving advice, or supervising about treatment. Family support is also an individual's feeling of being cared for, liked, valued and included by the community (Ghazali, 2023). Low knowledge will have an impact on treatment-seeking practices that will be carried out. The results of research by Widya, et al in 2017 showed that treatment-seeking practices were carried out after the pain had interfered with daily activities. Late treatment-seeking practices will result in disability (Nur Widya et al., 2019). Another issue related to knowledge is the stigma associated with leprosy in the community. Stigma denotes a mark given against a person. Stigmatised people behave as if they are in a shameful reality or have their name tainted. The effects of stigmatisation can result in society or other people changing their perceptions and behaviour towards the stigmatised individual, and generally cause the stigmatised person to change their perception of themselves and make them self-define as deviant. (Soedarjatmi et al., 2009).

Based on the results of the fishbone diagram, the causes of the problem are man, environment and materials. The man factor of SDMK shows that there is still a need for cross-sectoral socialisation and advocacy, which is the hope of this activity to form cooperation with cross-sectors and non-governmental organisations. This is in accordance with the recommendations of research conducted by (Lazuardi & Soebono, 2017) who stated that collaboration with cross-sectors and non-governmental organisations is needed. The most important thing is also the need for trained programme holders at the health centre level. Capacity building is one of the efforts to improve HRH by increasing the knowledge, attitudes and skills of health workers in the field of leprosy. The goal of SDMK capacity building is to prevent the discovery of new cases with grade 2 disability. According to (Saunderson, 2022) reliance on voluntary new case finding, known as positive case detection is an inadequate approach in the current era. The need for active early case detection in new leprosy case finding, a recent World Organisation Health (WHO) recommendation is to provide post-exposure prophylaxis

to new case contacts, as close contacts are the people most at risk of becoming new leprosy patients.

The man factor from the patient shows that socialisation is uneven because there is information that has not been conveyed due to time constraints from health workers and patients. During the socialisation, not all communities were able to participate in the activities directly delivered by health workers, due to the fact that each community has an obligation to work to meet family needs. Economic factors also influence this issue, because based on information from district-level programme holders, new leprosy patients come from communities with low economic levels. There needs to be innovation in the implementation of socialisation so that the entire community gets information about leprosy, so that the community will consciously pay attention to this neglected disease. Evenly distributed socialisation will create awareness in the prevention and control of leprosy from all elements of society. The Regulation of the Minister of Health of the Republic of Indonesia No. 11/2019 on leprosy prevention states that one of the strategies in leprosy prevention is to strengthen the participation of the community and community organisations, such as the association that has been formed by Puskesmas Dradah and Puskesmas Sekaran.

CONCLUSION

The USG method shows that based on the scoring results, the priority problem is that patients do not understand the early symptoms of leprosy, so that when there is a defect, they only check. Further analysis was conducted to determine the root cause of the problem using a fishbone diagram, which showed that Man is that some of the new programs have not received On the Job Training, lack of Human Resources for Health, and the absence of a meeting that facilitates cross-sectors. Environment is the lack of community participation in leprosy prevention. Materials are not having the money to go to referral facilities and the budget allocation is limited and uneven.

REFERENCES

- Bappenas. (2020). *Pedoman Teknis Penyusunan Rencana Aksi: Tujuan Pembangunan Berkelanjutan (TPB)/ Sustainable Development Goals (SDGs)*. In Bappenas. Bappenas.
- Carbadi, D., Laelatul Badriah, R., Suparman, S., Tinggi, I., & Kesehatan, K. (2022). Hubungan Antara Karakteristik Dengan Stigma Penyakit Kusta Pada Masyarakat Di Desa Tenajar Kecamatan Kertasemaya Kabupaten Indramayu 2022. *Journal of Midwifery Care*, 3(01), 54–63. <https://doi.org/10.34305/JMC.V3I01.601>
- Dinas Kesehatan Provinsi Jawa Timur. (2021). *Profil Kesehatan Dinas Kesehatan Provinsi Jawa Timur 2021*. Dinas Kesehatan Provinsi Jawa Timur, tabel 53.
- Froes, L. A. R., Sotto, M. N., & Trindade, M. A. B. (2022). Leprosy: clinical and immunopathological characteristics. *Anais Brasileiros de Dermatologia*, 97(3), 338–347. <https://doi.org/10.1016/j.abd.2021.08.006>
- Ghazali, I. (2023). Hubungan Dukungan Keluarga Dengan Kepatuhan Minum Obat pada Penderita Kusta : Literature Review. *Diagnosa: Jurnal Ilmu Kesehatan Dan Keperawatan*, 1(2), 140–151. <https://doi.org/10.59581/Diagnosa-Widyakarya.V1I2.591>
- Kamal, M., & Martini, S. (2015). Kurangnya konseling dan penemuan kasus secara pasif mempengaruhi kejadian kecacatan kusta tingkat II di Kabupaten Sampang. *Jurnal Berkala Epidemiologi*, 3(3), 290–303.

- Kementerian Kesehatan RI. (2021). Profil Kesehatan Indonesia. In Pusdatin.Kemendes.Go.Id.
- Koli, Y., D., T. V., & Munth, D. P. (2021). Hubungan Pengetahuan Dengan Perilaku Pencegahan Penularan Penyakit Kusta Di Wilayah Puskesmas Dokulamo Kecamatan Galela Barat Kabupaten Halmahera Utara. *Epidemia;Jurnal Kesehatan Masyarakat UNIMA*, 02(03), 40–46.
- Kurniawan, P., & Budhi, M. K. S. (2017). *Being A Decision Maker*.
- Lazuardi, L., & Soebono, H. (2017). Faktor risiko kejadian kusta di kabupaten Lamongan Risk factors of leprosy in district of Lamongan. *Berita Kedokteran Masyarakat*, 427–432.
- Menteri Kesehatan RI. (2019). Peraturan Menteri Kesehatan Republik Indonesia Nomor 11 Tahun 2019. In *Carbohydrate Polymers* (Vol. 6, Issue 1, pp. 5–10).
- Nur, A., Amalaia, N., Badau, M. J., & Selluk, A. T. (2019). Penyuluhan Penyakit Kusta dengan Tingkat Pengetahuan Keluarga Penderita Kusta di Wilayah Kerja Puskesmas Banggae II Kabupaten Majene. *Jurnal Penelitian Kesehatan “SUARA FORIKES” (Journal of Health Research “Forikes Voice”)*, 11(1), 73. <https://doi.org/10.33846/sf11115>
- Nur Widya, T., Sakundarno Adi, M., Bagian Epidemiologi dan Penyakit Tropik, M., & Kesehatan Masyarakat, F. (2019). Gambaran Faktor Risiko Kecacatan Pada Penderita Kusta. *Jurnal Kesehatan Masyarakat*, 7(3), 54–59. <https://doi.org/10.14710/JKM.V7I3.25790>
- Saunderson, P. (2022). Improving early case detection in leprosy: Reports from recent workshops. *Leprosy Review*, 93(4), 292–297. <https://doi.org/10.47276/lr.93.4.292>
- Soedarjatmi, Istiarti, T., & Widagdo, L. (2009). Faktor-faktor Yang Melatarbelakangi Persepsi Penderita Terhadap Stigma Penyakit Kusta. *Jurnal Promosi Kesehatan Indonesia*, 4(1), 18–24. <https://doi.org/10.14710/JPKI.4.1.18-24>
- WHO. (2021). Number of new leprosy cases. <https://www.who.int/data/gho/data/indicators/indicator-details/GHO/number-of-new-leprosy-cases>
- Yulita, A., Gustina, E., & Yusnilasari, Y. (2022). Penyakit Kusta dan Peran Serta Masyarakat di Wilayah Kerja Puskesmas Batumarta II Kabupaten OKU Tahun 2021. *Jurnal Kesehatan Saemakers Perdana*, 5(2), 288–301. <https://doi.org/10.32524/JKSP.V5I2.668>