

Indonesian Journal of Tropical and Infectious Disease

Vol. 12 No. 1 January – April 2024

Original Article

Relationship between Knowledge and Stigma with Attitude Towards People with Leprosy in Professional Nursing Students

Ishomatul Faizah^{1*}, Laily Hidayati², Ika Nur Pratiwi²

¹Faculty of Nursing, Universitas Airlangga, campus C Mulyorejo Surabaya, Indonesia

²Departement of Medical Surgical Nursing, Faculty of Nursing, Universitas Airlangga, campus C Mulyorejo Surabaya, Indonesia

Received: 19th September 2022; Revised: 6th October 2022; Accepted: 19th October 2023

ABSTRACT

The bacteria *Mycobacterium leprae* is the source of the chronic infectious illness leprosy (*M. leprae*). In society, leprosy still carries a shame. The erroneous impression of leprosy gives birth to stigma. Leprosy is thought to be brought on by curses, witchcraft, divine retribution, sin, or genetics. A person's perception of leprosy and lack of understanding about it might have an impact on how they feel about those who have it. Even among health students, information alone will not be sufficient to end the stigma against those who have leprosy; also, students need to learn how to develop greater empathy for those who have the disease. This study sought to ascertain the association between leprosy knowledge and stigma and attitudes among nursing students at the professional level. In this study, a cross-sectional methodology is used with a descriptive correlational design. A total 320 professional nursing students participated in the survey. Total sampling was used to select respondents based on inclusion and exclusion criteria. Utilizing the SPSS version 21, data were gathered by questionnaire and analyzed using the Spearman's rho test at a significance level of 0.05. The Spearman's rho test results revealed a positive link between attitude and knowledge ($p=0.001$), but a negative relationship between attitude and stigma ($p=0.000$). It was determined that attitudes toward people with leprosy were significantly influenced by information, stigma, and those attitudes. The better the mindset, the more one knows about leprosy. Leprosy patients are treated better when there is less stigma associated with their condition.

Keywords: Leprosy, Knowledge, Stigma, Attitude, and Nursing Student.

Highlights: As a development of the Precede Proceed behavioral theory from Laurence Green (1980), the results of this study are expected to have a positive impact on developing the concept of nursing science regarding nursing care management.

How to Cite: Faizah, I., Hidayati, L., Pratiwi, I. N. Relationship Between Knowledge and Stigma with Attitude Towards People with Leprosy in Professional Nursing Students. Indonesian Journal of Tropical and Infectious Disease. 12(1). 50-57. April. 2024.

DOI: 10.20473/ijtids.v12i1.39109

* Corresponding Author:

Ishomatul.faizah26@gmail.com



INTRODUCTION

Leprosy is a systemic disease and has a pre-examination of skin and nerves.¹ Leprosy is a chronic infectious disease caused by the obligate intracellular *Mycobacterium leprae* (*M. leprae*) which attacks the peripheral nerves of the skin as the first affinity, then the skin and oral mucosa, respiratory tract and spreads from the upper part to other organs except the central nervous system.² Leprosy is also a disease that is still a stigma in society. This stigma arises because of wrong perceptions of leprosy. Many people think that leprosy is a disease caused by curses, witchcraft, divine punishment, sin, food, or heredity.³ Even in the area of health students, education is not enough to suppress the stigma and negative attitudes toward lepers, so knowledge about how to increase empathy for lepers must be added.⁴ According to research conducted by Raju and Kopparty in the National Leprosy Eradication Program (NLEP) in India, knowledge does not necessarily eliminate stigma and negative attitudes towards leper.⁵ This illustrates the low awareness and negative attitude toward leprosy.⁶ Indonesia is one of the countries with leprosy cases that are still stable due to the decrease in the number of cases. East Java is the largest contributor to leprosy cases in Indonesia. Also according to research conducted by Rufina⁷, the relationship between the level of knowledge and the stigma of Hansen's disease in USU Medical Faculty students is very low. And according to a study conducted by Da Silva and Paz⁴ entitled Nursing Care Experiences with Hansen's Disease Patients: Contributions from Hermeneutics, there is still stigma and discrimination against people with leprosy from health professionals.⁴

In 2017, the highest distribution of new cases of leprosy in Indonesia by province population of 100,000 occurred in East Java with 3.373 new cases.⁸ Based on data from east Java Health Office, until January 21st 2020 there were 2,668 new lepers found.

Meanwhile, 3.351 lepers were still in treatment; 255 of them infected children arrived at stage 2 or disabled and 194 children were at stage 1. A preliminary study conducted by the researcher on February 1st 2020, by interviewing nursing students at Airlangga University from 14 respondents selected randomly obtained data such as nursing professional students know what leprosy is and leprosy transmission. However, there is still a negative perception of lepers (stigma) and from the results of preliminary study it can be concluded that they will refuse to visit the house of lepers, besides refusing to buy food from a former leper and finally there is an opinion that they will stay away from the person affected by leprosy. From the statement, it has impact on lepers because nursing professional students as prospective health workers should be responsive and always care for patients as well as giving good attitudes toward the desires of patients who want to get treatment; however, it is feared that they will not provide optimal services.⁹

Knowledge is the result of human sensing or the result of knowing about an object through sensory organs such as eyes, nose, ears, etc.¹⁰ Meanwhile, stigma is a negative name for a person or group so that it changes their self-concept and social identity.² The impact of stigma on the lives of leprosy clients occurs in four domains: emotions, thoughts, behavior and relationships.¹¹ Knowledge and stigma in nursing professional students at the professional stage have a role in determining how is their attitudes toward lepers. Meanwhile, attitudes are a readiness or willingness to act, and not an implementation of a particular motive. Attitudes are not an action (open reaction) or activity, but a predisposition to behavior (actions) or closed reaction.¹² In a study conducted on medical students at Saint James School of Medicine, Bonaire, Dutch Caribbean in 2015, it was found that knowledge of Hansen's disease among first, second, and third semester

students was higher than that of fourth semester students¹³. This is thought to be due to the factors of forgetting what they have learned about the disease in the third semester.¹²

The researcher intends to do research on the professional stage of nursing students who are prospective health workers who will later face various patients including lepers and is also supported by the absence of research on professional students on the stigma and their attitudes toward leprosy sufferers.

In addition, it is a development of the theory of *Precede Proceed* by Laurence Green¹⁴ which states that human behavior is influenced by behavioral factors and factors outside of behavior applied in nursing as a service to individuals, families, and communities.¹⁴ The results of this study are expected to have a positive impact on developing the concept of nursing science about nursing care management. In the field of nursing itself, it is contained in the Indonesian Nursing Professional Standards, which is included in the area of caregiving and nursing care management in core competencies, as nurse graduates are able to compile nursing plans and take nursing actions according to the plan.¹⁵

From the introduction described above, researchers are interested in examining the relationship between knowledge and stigma with the attitudes of students at the nursing professional stage toward leprosy.

MATERIALS AND METHODS

Study Design

This research design used a correlational design with a cross-sectional approach. The

cross-sectional approach is carried out by identifying and measuring only once at a time without any follow up.¹⁶

Population

The population of this study were nursing students who were in the professional stage at the national universities in East Java, such as Airlangga University, Brawijaya University, and Jember University. In this study, researchers used total sampling, a sampling technique where the number of samples is the same as the population.¹⁷ The number of samples in this research is 320 people.

Variables

This research variable measures the level of knowledge about leprosy, the stigma of leprosy sufferers and attitudes toward lepers.

Instruments

The instrument in this research for knowledge variables used knowledge questionnaire from Asmaradianty's research modified by the researcher,¹⁸ while stigma variables used the Explanatory Model Interview Catalogue (EMIC) stigma scale, and for attitude variables used the Social Distancing Scale (SDS).^{19,20} In measuring attitudes, SDS was chosen because it measures the level of social distance; a high score indicates a person's high tendency to maintain social distance from sufferers.²¹

Statistical Analysis

This research used Spearman's rho test analysis with significance level $\alpha = 0,05$ in SPSS software version 21.

RESULTS AND DISCUSSION

Results

Table 1. Distribution of Demographic Characteristics of Respondents, The Relationship Between Knowledge and Stigma and Attitudes Toward Leprosy among Nursing Students at The Professional stage.

Respondent Demographic Characteristics	Category	Frequency	Percentage (%)
Sex	Male	53	16.6
	Female	267	83.4
	Total	320	100
Location	Airlangga	111	34.7
	Brawijaya	61	19
	Jember	148	46.3
	Total	320	100
Age	22 years	23	7.19
	23 years	236	73.75
	24 years	61	19.06
	Total	320	100

Table 1 is a distribution of demographic characteristics of respondents. It shows that from a total of 320 respondents spread from three national universities in East Java, almost all respondents have female

gender (267 people or 83.4%) and almost half of the respondents came from the University of Jember (148 people or 46.3%). In addition, almost all respondents were 22 years old (236 people or 73.75%).

Table 2. The Relationship Between Stigma and Attitude Toward Lepers in Nursing Students at The Professional Stage.

Stigma	Attitude				Total		P-Value	r
	Negative		Positive		Σ	%		
	f	%	f	%				
Low	6	4.9	117	95.1	123	100	0.000	-0.286
Medium	29	18.1	131	81.9	160	100		
High	15	40.5	22	59.5	37	100		

Table 2 shows the relationship between stigma and attitude toward lepers in nursing students at the professional stage. The results of the analysis of the relationship between stigma and attitude show that the stigma level of nursing students in the professional stage toward leprosy show that the majority of respondents (160) have a moderate stigma level and the attitude of nursing students in the professional stage toward leprosy show that most respondents (270) have a good attitude level. Almost half of the respondents (131, 81.9%) have a moderate stigma against lepers with a positive attitude. The results of further statistical tests obtained the value of $p = 0.000$ ($p < 0.05$), it can be concluded that H1

is accepted, so that there is a relationship between stigma and attitudes toward lepers among nursing students at the professional stage.

Discussion

The results of statistical tests using Spearman's rho show that there is a significant relationship with the level of correlation being at a very weak level between knowledge and attitude. In addition, the correlation coefficient shows that the correlation coefficient is positive, which means that the higher the knowledge, the better the attitude shown by the professional stage nursing students toward lepers.



Knowledge is an important factor in determining attitudes toward lepers. The results of this study indicate that the majority of respondents (259 respondents) have high knowledge and the majority of respondents (270 respondents) have a good attitude, which can be seen from the aspect of trust toward lepers. This is the same as research conducted by Britton²² which states that nurses are equipped with knowledge while still in education and believe that a person will not easily contract leprosy if they have treated lepers well.²² It is also corresponds with the theory that someone's knowledge will adopt a new behavior.¹⁰

The results of the respondents' answers distribution analysis on to the knowledge variable showed that the mode of respondents with most number of correct answers was on the disability aspect of leprosy and the most number of answers was wrong on the aspect of leprosy transmission. This is slightly different from Sharma's²³ research in India to second, third, and fourth year medical students with the highest scores being those who answered correctly about the causes of leprosy, while the lowest scores were those who answered correctly about the pathology of leprosy.²³ The respondents answers distribution analysis to the attitude variable showed that the mode of the respondents was mostly willing to answer the emotional aspects of life, such as showing an attitude of not objecting to being neighbors with people with leprosy.

According to this result, it can be said that the high level of knowledge possessed can make someone behave well. Education is a process of changing a person's behavior and attitudes. Besides that, one of the factors that influence human behavior is the knowledge factor itself. It was found that the high knowledge possessed can encourage someone to have good behavior. The results of statistical tests using Spearman's rho show that there is a significant relationship with the level of correlation being at a weak level

between stigma and attitude. In addition, the correlation coefficient shows that the correlation coefficient is negative or inverse, which means that the lower the level of stigma, the better the attitude shown by professional nursing students toward lepers. It is the same with the theory that stigma is formed from stereotypes or beliefs in something. Stereotypes are beliefs about certain groups. Stereotypes can be positive or negative and stereotypes in lepers are they are seen as disgusted by the clinical manifestations seen from the type of leprosy they have and the disability that has been experienced. Thus, the stigma about leprosy that is owned can affect the attitude toward lepers.

The results of this research indicate the majority of respondents (160 respondents) gave medium stigma. One of the causes of stigma is belief about the cause of stigma where trust itself is a component of attitude. A stigma example of leprosy patients is that they are seen as disgusted because of the clinical manifestations that appear from the type of leprosy suffered and the disability experienced. Stigma can encourage prejudice against a person or group of people.

It is slightly different from the research conducted by Singh²⁴ in the community in Nepal; according to the results of the study, the majority of the respondents (44%) have a high stigma about lepers, supported by myths and misconceptions that exist in the community about leprosy.²⁴ The results of this research show that the majority of respondents (270 respondents) have good attitude toward lepers. This contrasts with other case studies of chronic diseases such as HIV/AIDS; people with HIV/AIDS report receiving bad care by health workers. Patients with chronic diseases who are stigmatized as bad also report that health workers feel frustrated with them, complain, and treat them differently or unfairly.²⁵

The results of the respondents' answers distribution analysis to the stigma variable

found that the most respondents' mode of answering was probably located in the prejudice aspect, while the mode that had the least answer was yes, which was located in the stereotype aspect. This is the same as research conducted by Kaehler²⁶ on people in Thailand which showed that 49.8% said they would not buy food from lepers because of the fear of contracting leprosy and also negative perceptions about leprosy. In addition, the difficulty of lepers in finding work is also supported by research conducted on leprosy sufferers in Noloambo where leprosy sufferers are required to leave work because of their illness.²⁶

In addition, some of the factors that influence attitude of leprosy patients in terms of the quality of management leprosy are: the high social stigma of leprosy in the community and among health workers, which hinders case finding and management of leprosy; the community does not know the early symptoms of leprosy; most leprosy control program holders are not doctors; comprehensive management of leprosy (including prevention of disability) is not optimal; leprosy clinically resembles many other skin diseases, so supporting examinations are needed. While supporting examination facilities for diagnosis are not yet available in all healthcare facilities, the leprosy journey is very long so that reactions that arise after treatment are not monitored.²⁷

It can be said that the level of owned stigma can make a person behave well. Owned stigma can change a person's behavior and attitudes. In addition, one of the causes of stigma is belief about the causes of stigma, where belief itself is a component of attitude. According to this statement, it was found that the level of stigma possessed could encourage a person's good behavior.

STRENGTH AND LIMITATION

The strength of this study was that it is known that the level of stigma possessed can make a person behave well. The stigma

possessed can change a person's behavior and attitude. In addition, one of the causes of stigma is a belief about the cause of stigma, where the belief itself is a component of attitude. It has been found that the level of stigma possessed can encourage a person's good behavior. The limitation of this study was the Covid-19 virus pandemic which caused all research processes to be carried out online.

CONCLUSIONS

According to the results and discussions of this research, it can be concluded:

1. Knowledge of leprosy has a relationship with attitudes toward lepers. Knowledge of leprosy has a positive relationship with attitudes toward lepers and the two variables have a very weak relationship.
2. The stigma of leprosy has a significant relationship with attitudes toward lepers. The stigma about lepers has negative relationship with the attitudes toward lepers and the two variables have a weak relationship.
3. In this research, it was found that the high knowledge of leprosy which is obtained by nursing students at the professional stage during education can deal with the stigma and bad attitudes of nursing students at the professional stage of leprosy.

ETHICAL CLEARANCE

This research has passed the ethical approval of the Health Research Ethics Commission of the Faculty of Nursing, Airlangga University with ethics certificate number 1994-KEPK.

ACKNOWLEDGMENT

We thank the professional nursing students of Airlangga University, Brawijaya University, Jember University for their participation in the study.



FUNDING

This study did not receive funding.

CONFLICT OF INTEREST

There are no conflicts of interest between authors in this study.

AUTHOR CONTRIBUTION

Ishomatul Faizah: Study design, methodology, software, data collection, writing of the original manuscript. Laily Hidayati, Ika Nur Pratiwi: Study design, methodology. All authors read and approved the final manuscript.

REFERENCES

1. Amiruddin MD. Penyakit kusta: Sebuah pendekatan klinis. Firstbox Media; 2019.
2. Ridwan M. Analisis Faktor Yang Berhubungan Dengan Timbulnya Stigma Kusta Pada Masyarakat Berdasarkan Teori Transcultural Nursing Di Puskesmas Burneh Kabupaten Bangkalan. Universitas Airlangga; 2017.
3. Van Brakel W. Stigma in leprosy: concepts, causes and determinants. *Lepr Rev.* 2014;85:36–47.
4. Da Silva MCD, Paz EPA. Nursing care experiences with Hansen's disease patients: Contributions from hermeneutics. *ACTA Paul Enferm [Internet].* 2017;30(4):435–41. Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85033697274&doi=10.1590%2F1982-0194201700064&partnerID=40&md5=e640204f8c5d355821b0569641ee8b83>
5. Gopalakrishnan S, Grace GA, Sujitha P, Eashwar VMA. Knowledge, attitude, and health seeking behavior on leprosy among urban adults in Kancheepuram district of Tamil Nadu: A Community-based cross-sectional study. *J Fam Med Prim Care.* 2021;10(5):1895.
6. Grewal I, Negi Y, Kishore J, Adhish S V. Knowledge and attitude about Leprosy in Delhi in post elimination phase. *Indian J Lepr.* 2013;85:123–7.
7. Rufina A. Hubungan Antara Tingkat Pengetahuan dengan Stigma Terhadap Hansen's Disease pada Mahasiswa FK USU. 2018;
8. Kemenkes RI. infoDatin-kusta-2018. 2018.
9. Aulia PW 2019. Stigma Terhadap Penderita Kusta. 2019.
10. Laili Afnur. Hubungan Akses Pelayanan Kesehatan, Dukungan Keluarga Dan Pengetahuan Penderita Kusta Dengan Perawatan Diri Penderita Kusta (Studi di Puskesmas Grati Kabupaten Pasuruan Tahun 2016). Universitas Airlangga; 2017.
11. Lusli M, Zweekhorst M, Miranda-Galarza B, Peters RMH, Cummings S, Seda FSSE, et al. Dealing with stigma: experiences of persons affected by disabilities and leprosy. *Biomed Res Int.* 2015;2015.
12. Yuda AA. Hubungan Karakteristik, Pengetahuan, Sikap Dan Tindakan Penderita Tuberkulosis Paru Dengan Kepatuhan Minum Obat Di Puskesmas Tanah Kalikedinding. Universitas Airlangga; 2019.
13. Multinovic M, Dusic A, Gugnani HC, Heckburn R, Marcelin D. Awareness of Leprosy in Students of Basic Sciences in Saint James School of Medicine, Bonaire (Dutch Caribbean). *Indian J Commun Dis.* 2015;1(1).
14. Green LW, Kreuter M, Deeds SG, Partridge KB. Health education planning: A diagnostic approach. In:

- Health education planning: a diagnostic approach. 1980. p. 306.
15. PPNI, AIPNI Aipd. Standar Kompetensi Perawat Indonesia Edisi IV. 2013;
 16. Nursalam. Metode Penelitian Ilmu Keperawatan, Pendekatan Praktis. Edisi 4. Lestasi PP, editor. Jakarta: Salemba Medika; 2017. 454 p.
 17. Kurniasari CI. Pengaruh Gabungan Sugesti dan Musik Instrumentalia Terhadap Peningkatan Kualitas Tidur Pada Lansia di Griya Lansia Santo Yosef Surabaya. Universitas Airlangga; 2015.
 18. Asmaradianti A. Correlation Of Knowledge With Attitude And Stigma Towards Leprosy Among Medical Students And Non Medical Students In Universitas Airlangga. Universitas Airlangga; 2018.
 19. Morgado FF da R, Silveira EMKX da, Sales AM, Nascimento LPR do, Sarno EN, Nery JA da C, et al. Cross-cultural adaptation of the EMIC Stigma Scale for people with leprosy in Brazil. *Rev Saude Publica*. 2017;51:80.
 20. Peters RMH, Dadun WH, Zweekhorst MBM, Damayanti R, Bunders JFG. The cultural validation of two scales to assess social stigma in leprosy. *PLoS Negl Trop Dis*. 2014;8(11).
 21. NWOKEJI SC. Assessment of stigma among people living with Hansen's disease in south-east Nigeria. *Lepr Rev*. 2017;88:43–57.
 22. Bergman L, Britton A. Nurse's experiences of leprosy related stigma in Ghana. 2014.
 23. Sharma A, Garima G, Sharma N, Sharma S, Singh N, Vohra P, et al. Comparative study of knowledge and awareness about leprosy among medical college students pre and post state leprosy sensitisation program in mewat, haryana, india. *J Clin Diagnostic Res* [Internet]. 2018;12(8):BC29–32. Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85051144512&doi=10.7860%2FJCDR%2F2018%2F33981.11958&partnerID=40&md5=8aaac8a4c2b7acaab7ddc646a9a3cad4>
 24. Singh R, Singh B, Mahato S. Community knowledge, attitude, and perceived stigma of leprosy amongst community members living in Dhanusha and Parsa districts of Southern Central Nepal. *PLoS Negl Trop Dis* [Internet]. 2019;13(1). Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85059879350&doi=10.1371%2Fjournal.pntd.0007075&partnerID=40&md5=265ab570fd25d487f9b89b6c2074e8c3>
 25. Earnshaw VA, Quinn DM. The impact of stigma in healthcare on people living with chronic illnesses. *J Health Psychol*. 2012;17(2):157–68.
 26. Kaehler N, Adhikar B, Raut S, Marahatta SB, Chapman RS. Perceived stigma towards leprosy among community members living close to Nonsomboon leprosy Colony in Thailand. *PLoS One*. 2015;10(6):e0129086.
 27. Menaldi SLSW. Pedoman Nasional Pelayanan Kedokteran Tata Laksana Kusta. 2019;