








Validation of the Knowledge, Attitude, and Practice survey for self-care in leprosy*

Validação do inquérito Conhecimento, Atitude e Prática para o autocuidado em hanseníase

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ABSTRACT

Objective: to validate the content of the Knowledge, Attitude, and Practice of self-care in the leprosy survey. **Methods:** a methodological study is developed in two stages: the development of the instrument and content validation by expert judges. The content of each item was validated for clarity. The Content Validity Index was used to assess agreement between the judges. Descriptive statistics were used to analyze the data. **Results:** five experts participated; the survey's content validity index was 0.87. 21 items were reformulated, 11 were included, and three were added to another domain. This resulted in 40 items distributed in three categories: face care (15 items), hands (12 items) and feet (13 items). **Conclusion:** the final version of the Knowledge, Attitude, and Practice survey covers the face, hands, and feet categories and has achieved adequate content validity for its use. **Contributions to practice:** this constitutes an essential tool that will help health professionals make decisions regarding practices to promote self-care for people with leprosy. **Descriptors:** Health Knowledge, Attitudes, Practice; Self Care; Leprosy; Validation Study; Nursing.

RESUMO

Objetivo: validar o conteúdo do inquérito Conhecimento, Atitude e Prática de autocuidado em hanseníase. **Métodos:** estudo metodológico desenvolvido em duas etapas: elaboração do instrumento e validação do conteúdo por juízes especialistas. O conteúdo de cada item foi validado quanto à clareza. Utilizou-se o Índice de Validade de Conteúdo para avaliar a concordância entre os juízes. Para análise dos dados, foram usadas estatísticas descritivas. **Resultados:** participaram cinco especialistas, o índice de validade de conteúdo do inquérito foi de 0,87. Foram reformulados 21 itens, incluídos 11 e três foram acrescentados em outro domínio. Resultando em 40 itens distribuídos em três categorias: cuidados com a face (15 itens), mãos (12 itens) e pés (13 itens). **Conclusão:** a versão final do inquérito Conhecimento, Atitude e Prática contemplam as categorias de face, mãos e pés e alcançou validade de conteúdo adequada para sua utilização. **Contribuições para a prática:** consiste em um importante instrumento que auxiliará profissionais de saúde na tomada de decisões junto às práticas de promoção para o autocuidado de pessoas com hanseníase. **Descritores:** Conhecimentos, Atitudes e Prática em Saúde; Autocuidado; Hanseníase; Estudos de Validação; Enfermagem.

Introduction

Leprosy is an infectious, contagious, and chronic disease caused by the bacillus *Mycobacterium leprae*. It still represents a significant public health challenge in Brazil due to its high incapacitating power and the magnitude of the disease⁽¹⁾. One of its striking characteristics is the bacterium's predilection for peripheral nerves, leading to physical disability, ranging from sensitivity changes to more severe deformities, especially in the face, hands, and feet. All these alterations cause various disorders, such as reduced working capacity, restrictions on social life, and psychological difficulties⁽²⁾.

Despite all the efforts to diagnose leprosy early in Brazil, there are still a significant number of people with physical disabilities. It is estimated that two to three million people in the world have some leprosy sequelae⁽³⁾. In 2022, Brazil had a total of 9,554 new cases with physical disability grade 2, representing a rate of 1.2 cases per 1 million inhabitants, around 5.5% more than in 2021⁽⁴⁾.

Early disease diagnosis is essential for treating and stopping infection and preventing deformities and disabilities. Adequate treatment of reactions and neuritis is fundamental, so it is vital that people affected by leprosy know about their disease and how to treat it correctly. It is, therefore, important for these people to collaborate in the prevention process and carry out self-care actions daily⁽⁵⁻⁶⁾.

Self-care is an activity that people can carry out at home and in other environments. Through health promotion, self-care is effective in reducing disabilities, helping to maintain the structural and functional integrity of the individual, and contributing to improving their health⁽⁷⁻⁸⁾.

Thus, health education actions, through educational interventions, are fundamental in empowering people affected by leprosy to take better care of themselves and consequently reduce their physical disabilities.

The Knowledge, Attitude, and Practice (KAP)

survey is a tool for formative evaluation of health interventions. Measuring individuals' knowledge, attitudes, and practices enables accurate data collection to support strategic decision-making and continuous improvement of implemented actions⁽⁹⁾.

The use of instruments is essential for health care, but it is vital that they are accepted for validation to guarantee more authentic content⁽¹⁰⁾. A validated KAP survey instrument allows for more accurate and rigorous measurement of self-care practices, contributing to developing more effective and personalized interventions. Given the need to create and validate an instrument to be used with people affected by leprosy, the aim was to validate the content of the Knowledge, Attitude, and Practice of Self-Care in Leprosy survey.

Methods

Study design

Methodological research, carried out from January 2021 to July 2022, in two phases: survey design and content validation.

Development stages

In the KAP survey preparation phase, the content was based on a booklet-type educational technology entitled "Leprosy: Learn to take care of your body" on self-care guidelines for leprosy, which was developed and validated⁽¹¹⁻¹²⁾. The KAP survey was divided into two sections. The first relates to sociodemographic characteristics, such as age, gender, level of education, occupation, marital status, family income, and clinical characteristics, with the variables classification and clinical form of leprosy and assessment of the degree of physical disability. The second segment of the survey covers face care, hand care, and foot care, where each domain has the dimensions of knowledge, attitude, and practice.

Focusing on these aspects, the KAP survey aims to ensure that patients acquire in-depth and practi-

cal knowledge about self-care in the most vulnerable areas. This includes preventing lesions, maintaining skin integrity, and adopting proactive attitudes to detect signs of worsening early. Although there are several other essential aspects to leprosy care, such as psychological support, adherence to drug treatment, and control of comorbidities, the focus on the face, hand, and foot care reflects a strategic approach to mitigating the most immediate and visible effects of the disease.

The survey items were rated as follows: yes, no; if yes, how, about knowledge. Regarding attitude, the item was judged on yes, sometimes, no, if yes, or sometimes, how often, daily, weekly, and twice a month. About practice, the item was assessed based on the objective proposed in the statement and the frequency with which the action mentioned was carried out: yes, no, or sometimes.

In the second stage, the material was validated by experts responsible for validating the content. After agreeing to participate in the research, the link to access the questionnaire on Google Forms was emailed, along with a kit containing the Free and Informed Consent Form, the booklet, the evaluator characterization questionnaire, and the survey.

To collect the data, a Likert-type scale was used with four rating levels: 1-not suitable, 2-somewhat suitable, 3-suitable, and 4-very suitable, with items evaluating the appearance and content domains of the instrument.

In the second phase, content validation was carried out by five judges from different Brazilian states, selected based on their expertise in the area. They participated remotely in the activities and discussions.

The search for and selection of judges was conducted at the national level through the Lattes Platform of the National Council for Scientific and Technological Development, using the snowball sampling technique, in which one expert nominated another⁽¹³⁾. The inclusion criteria⁽¹⁴⁾ were: having skills or knowledge obtained through experience; having skills or knowledge that give the professional recognition as

an authority on the subject (leprosy, health technology, technology validation); having exceptional skills in a particular type of study; or having a high rating granted by a competent body.

Nine judges were contacted electronically by letter of invitation, five of whom responded to the request, making up the final sample. Regarding the size of the sample of judges, the study followed the recommendations of other methodological studies that have validated surveys to assess pregnant women's knowledge, attitude, and practice about gestational hypertensive syndrome⁽¹⁰⁾ and pre-hospital emergencies among elderly caregivers⁽¹⁵⁾.

Data processing and analysis

The analysis used the Content Validity Index (CVI), which assesses the proportion or percentage of judges who agree on specific aspects of the instrument and its items, enabling each item to be evaluated individually, and the Scale Content Validity Index/Average Proportion (S-CVI/Ave) - the average of the content validation indices for all the scale indices. The cut-off point used for the CVI was 0.78⁽¹⁶⁾. The dissertation responses were read and analyzed, and the suggestions that were considered relevant were incorporated. The suggestions were analyzed according to a search of the scientific literature and the Ministry of Health guidelines with updates on the subject.

Ethical aspects

The ethical precepts of Resolution 466/2012 of the National Health Council were respected. The study was approved by the Research Ethics Committee of the *Universidade Regional do Cariri* under approval number 5.235.351/2022 and Certificate of Submission for Ethical Appraisal: 53800921.0.0000.5055.

Results

Five judges took part in the content validation, all of whom were female, between 38 and 40 years

old (Standard Deviation (SD) ± 14.78), four nurses and one physiotherapist with a length of training (< 15 years 20% and ≥ 15 years 80%). Regarding qualifications, four had a doctorate, and one had a master's degree. All the judges had experience in teaching and two in care and were carrying out or had carried out studies about self-care in leprosy.

The survey obtained an overall CVI of 0.87 in terms of content, which means that the judges' assessment was satisfactory, with a CVI greater than 0.80. In the facial care domain, all items had a CVI of 1.00. In the hand care and foot care domains, the items had a CVI of 0.80, considered acceptable in all cases. The judges, therefore, validated the survey (Table 1).

Table 1 – Distribution of the Content Validity Index for each domain of the Knowledge, Attitude, and Practice survey. Iguatu, CE, Brazil, 2022

Items evaluated	Content Validity Index		
	Knowledge	Attitude	Practice
Face care	1	1	1
Hand care	0.80	0.80	0.80
Foot care	0.80	0.80	0.80
S-CVI/Ave	0.87		

S-CVI/Ave: Scale Content Validity Index/Average Proportion

In terms of clarity, the survey was considered adequate according to the judges' responses, indicating a precise and reliable instrument. A total of 21 rewordings were done according to the suggestions of replacing the survey with simpler terms that were easier to understand/complementing it with new alternative answers. Information on what could cause tingling or numbness was added in addition to washing the nose as an essential practice for moisturizing the nasal mucosa. Three items were excluded, three items were transferred to practice, and, in total, 11 were included, including information on the impairment of the eyesight of people affected by leprosy.

After assessing the agreement, changes were made according to the experts' recommendations, and the final version of the instrument was created. The KAP survey now contains 40 items divided into three categories: face care (15), hand care (12) and foot care (13) (Figures 1, 2 and 3).

Face care	
1st version of the survey	The final version of the survey
Knowledge	
1. Did you know that leprosy can affect the skin and nerves of the face, eyes, and nose? () Yes () No	1. Did you know that leprosy can affect the skin and nerves of the face, including the ears, eyes, and nose? () Yes () No
2. Did you know you need to care for your body daily?	Item excluded
3. Did you know that leprosy can cause white or dark spots on the face that cause tingling or numbness? () Yes () No	2. Did you know that leprosy can cause white or dark spots on the face that can cause tingling or numbness? () Yes () No
4. Did you know that leprosy can cause bleeding and sores inside the nose? () Yes () No	No change
5. Do you know how you clean your nose ring? () Yes () No . If so, how?	4. Do you know how to clean the crusts from your nose? () Yes () No. If so, how?
6. Do you know how to take an eye test? () Yes () No . If so, how?	No change
	Item included 6. Did you know that leprosy can affect your eyesight? () Yes () No

(the Figure 1 continue in the next page...)

Attitude	
1. Do you look at yourself in the mirror, checking your nose for anything different? () Yes () Sometimes () No () What are you looking for?	1. Do you look at yourself in the mirror, checking inside your nose for anything different? () Yes () Sometimes () No () If yes, or sometimes, what are you looking for?
2. Do you look at yourself in the mirror, looking at your eyes for something different? () Yes () Sometimes () No () What are you looking for?	No change
3. Do you ask someone to watch your eyes when you close them? () Yes () No Why?	No change
4. Do you observe if your nose has crusts? () Yes () Sometimes () No. If yes or sometimes, how often? () Daily () Weekly () Twice a month	4. Do you check your nose for crusts? () Yes () No . If yes, how often? () Daily () Weekly () Twice a month
Practice	
	Item included 1. Do you wash your nose daily? () Yes () No. If not, why not?
1. Do you clean the crusts? () Yes () No. If yes, how?	2. Do you clean the crusts from your nose? () Yes () Sometimes () No. If yes or sometimes, how? () I've never had crusts
2. Do you wash your hands with soap and water before and after taking care of your body? () Yes () Sometimes () No	Item excluded
3. Do you wear a hat or cap and sunglasses to protect your eyesight when you go out? () Yes () Sometimes () No.	3. Do you wear a hat or cap to protect your eyesight? () Yes () Sometimes () No. If not, why not?
	Item included 4. Do you protect your eyesight when you go out wearing sunglasses? () Yes () Sometimes () No. If not, why not?
4. Have your eyes tested? () Yes () Sometimes () No. If yes or sometimes, how often? () Daily () Weekly () Twice a month	5. Do you get tested to see if you lose sight? () Yes () No If yes, how often? () Daily () Weekly () Twice a month

Figure 1 – Knowledge, attitude, and practice survey for facial care. Iguatu, CE, Brazil, 2022

Hand care	
1st version of the survey	The final version of the survey
Knowledge	
1. Did you know that leprosy can affect the skin and nerves of your hands and arms? () Yes () No	1. Did you know that leprosy can affect the skin and nerves in your hands and arms and can cause pain and muscle weakness? () Yes () No
2. Did you know that leprosy can cause white or dark spots on the hands that cause tingling or numbness? () Yes () No	2. Did you know that leprosy can cause white or dark spots on the hands that can cause tingling or numbness? () Yes () No
3. When you examine your hands, do you look for: () Redness () Bruising () Swelling and pain () None of the above () All of the above	3. When you examine your hands, do you look for: () Redness () Injury () Swelling and pain () Dryness () Calluses () None of the above () All of the above
4. Do you know if you protect your work tools with cloth, rubber, or foam? () Yes () No. If so, how?	4. Do you know how to protect your hands using cloth, rubber, or foam on work tools? () Yes () No. If yes, how?
Attitude	
1. When you have calluses on your hands, do you () grate the callus, lubricate and moisturize () cut the callus () Do nothing	The item was transferred to the practical domain, and changes were made.
2. How do you protect your hands when handling a hot pan? () Wear a glove or cloth () Not at all	No change
	Item included 2. Do you take care of your hands when you have calluses? () Yes () Sometimes () No () Never had calluses
	Item included 3. Do you take care of your hands when you have wounds? () Yes () Sometimes () No () I've never had wounds

(the Figure 2 continue in the next page...)

Practice	
1. Do you examine your hands? () Yes () Sometimes () No. If yes or sometimes, how often? () Daily () Weekly () Twice a month	1. Do you examine your hands? () Yes () No. If yes, how often? () Daily () Weekly () Twice a month
2. Do you lubricate and moisturize your hands? () Yes () Sometimes () No. If yes or sometimes, how often? () Daily () Weekly () Twice a month	2. Do you lubricate and moisturize your hands? () Yes () No. () Daily () Weekly () Twice a month
3. How many minutes do you leave your hands in the basin? () 5 () 10 () 15 () 20	3. How many minutes do you leave your hands in the basin? () 10 () 15 () 20 () I don't use this practice
4. When your hands have calluses, do you remove the calluses from your hands? () Yes () No. If yes, how?	Item excluded
	Item included 4. When you have calluses on your hands, do you: () lubricate () grate () moisturize () cut () do nothing

Figure 2 – Knowledge, attitude, and practice survey for hand care. Iguatu, CE, Brazil, 2022

Foot care	
1st version of the survey	The final version of the survey
Knowledge	
1. Did you know that leprosy can affect the skin and nerves in your feet and legs? () Yes () No	1. Did you know that leprosy can affect the skin and nerves in your feet and legs and cause pain and muscle weakness?() Yes () No
2. Did you know that leprosy can cause white or dark spots on the feet that cause tingling or numbness? () Yes () No	2. Did you know that leprosy can cause white or dark spots on the feet that can cause tingling or numbness? () Yes () No
	Item included 3. Do you know what precautions to take to protect your feet when choosing footwear? () Yes () No. If yes, what are they?
Attitude	
1. Do you examine your feet? () Yes () Sometimes () No. If yes or sometimes, how often? () Daily () Weekly () Twice a month	Deleted from the attitude domain, added to the practice domain, and made changes.
2. Do you take care of your feet when you have calluses? () Yes () Sometimes () No. If yes or sometimes, how?	1. Do you care for your feet when you have calluses? () Yes () Sometimes () No () I've never had calluses. If yes or sometimes, how?
3. Do you take care of your feet when you have wounds? () Yes () Sometimes () No. If yes or sometimes, how?	2. Do you take care of your feet when you have wounds? () Yes () Sometimes () No () I've never had sores. If yes, or sometimes, how?
	Item included 3. Do you buy shoes that protect your feet, such as non-sticky shoes, not too tight, no high heels, no thin toes, soft insoles, and no seams on the inside? () Yes () No
Practice	
	Item included 1. Do you examine your feet? () Yes () No If yes, how often? () Daily () Weekly () Twice a month
1. Do you lubricate and moisturize your feet? () Yes () Sometimes () No. If yes or sometimes, how often? () Daily () Weekly () Twice a month	2. Do you lubricate and moisturize your feet? () Yes () No () Daily () Weekly () Twice a month
	Item included 3. When you have calluses on your feet, do you () lubricate () grate () moisturize () cut () do nothing () never had calluses
2. How many minutes do you leave your feet in the basin? () 5 () 10 () 15 () 20	4. How many minutes do you leave your feet in the basin? () 10 () 15 () 20 () I don't use this practice
	Item included 5. Do you protect your feet by wearing suitable footwear? () Yes () Sometimes () No
	Item included 6. Do you protect your feet by not walking barefoot? () Yes () Sometimes () No

Figure 3 – Knowledge, attitude, and practice survey for foot care. Iguatu, CE, Brazil, 2022

Discussion

Preparing a survey to assess the Knowledge, Attitude, and Practice (KAP) of people affected by leprosy regarding self-care represents a relevant technology for identification, follow-up consultation, monitoring, and care to prevent disabilities.

The CAP was validated in the first cycle of evaluations with judges, corresponding to five specialists with theoretical and practical experience in leprosy self-care. The instrument developed and validated in this study was positively evaluated, with an overall CVI of 0.87. The CVI index adopted in this study was a parameter for other validation studies⁽¹⁷⁻¹⁸⁾.

The changes made to the first version allowed for a better understanding of the language, as evidenced in another study that surveyed knowledge, attitude, and practice regarding nursing care in labor and birth based on the concepts of Florence Nightingale's Environmental Theory and suggestions of the National Guideline for Normal Childbirth Care⁽¹⁹⁾.

The survey domains are divided into face care, hand care, and foot care and are distributed in the dimensions of knowledge, attitude, and practice, totaling 40 items. These changes made the survey clear, pertinent, and relevant to guide self-care from the perspective of preventing disabilities and reducing the onset and evolution of neurological and motor sequelae.

More than half of the people affected by leprosy were unaware of self-care practices for the face, hands, and feet, and 55.6% were unaware of the cause and transmission of the disease, although leprosy is endemic in Brazil. A lack of knowledge about the disease can directly influence self-care practices⁽²⁰⁾.

In this sense, addressing these items related to face, hand, and foot care is justified by the need for specific care that people with leprosy should have to avoid complications in these regions.

Changes were made to the instrument according to the judges' recommendations, adding terms more commonly used in self-care and including new

items. These were related to knowledge of vision care due to the disease and the use of glasses, nose washing, care of wounds and calluses on the hands, and care of footwear to protect the feet. Constructing an instrument with adequate psychometric properties with attitudes and practice of self-care for the face, hands, and feet contributes to its high potential for use with people affected by leprosy⁽²¹⁾.

Self-care skills and social support are crucial determinants of the quality of life of affected people. Strengthening social support systems and improving self-care skills among cured leprosy patients can substantially improve their quality of life. In addition, the stigma associated with leprosy must be effectively reduced⁽²²⁾.

Educational status is highly significant in determining levels of knowledge about disease and self-care. This means that educating the population is essential to contain the transmission of the disease and ensure that people start treatment as early as possible, improving not only the prognosis but also preventing permanent complications and deformities in the hands and feet⁽²³⁾.

The development of self-care practices is a strategy for treating and preventing disabilities for people affected by leprosy, offering maintenance of structural integrity and prevention of disabilities⁽²³⁾. Self-care practices for the face/hand and feet should be integrated, especially in primary care and during care management, to increase health promotion and disability prevention.

Health education interventions aimed at self-care practices lead to a reduction in the endorsement of negative stereotypes and, therefore, less damage related to stigma among people affected by leprosy⁽²⁴⁾. Skills and knowledge acquired in health education actions using health technology increase the individual's autonomy regarding aspects related to the health-disease process.

The concept of technology has evolved recently, accompanied by the increased use of new resources in health care practices. Thus, technologies have become

essential elements in work, not restricted to simple tools but capable of establishing a shared relationship between individuals in an exchange of knowledge.

In this context, the growing adoption of health technologies has the potential to transform disease management. By facilitating early diagnosis, preventing disabilities, and promoting self-care, this technological format can help health professionals combat the disease's endemicity⁽²⁵⁾.

From this perspective, health technologies aimed at leprosy care act as agents for transforming health conditions, giving new meaning to care practices. In this way, they strengthen the construction of knowledge, encouraging adherence to self-care practices, enabling more efficient care, and helping to reduce the stigma that permeates the disease^(21,26).

It should be noted that leprosy mainly affects the lower socioeconomic class, which faces unfavorable educational conditions. In this sense, there is a need to develop technologies that are accessible and easy to understand for SUS users with low levels of education⁽¹⁴⁾.

Using instruments that include questions about functional capacity, general disease status, personal activities, and treatment makes it possible to assess areas or domains of different population groups with other diseases, such as leprosy⁽²⁷⁾. Concerning the survey in this study, such approaches should point to the need to plan the health team's actions with this population group, which requires longitudinal care actions in everyday practice.

Study limitations

A limitation of the study is the content validation process. Although the number of judges is sufficient to validate content, a more significant number would provide more suggestions for the survey.

Contributions to practice

The relevance of the CAP survey, construc-

ted and validated in this study, in the Family Health Strategy or leprosy-related specialty centers is highlighted to measure the knowledge, attitude, and practice of these people and help health professionals think about and implement self-care measures based on the results of its application. Thus, it contributes to promoting practices that meet the needs of people affected by leprosy and actions that improve the quality of care.

Conclusion

The Knowledge, Attitude, and Practice Survey on Self-Care for people with leprosy was validated in terms of content with an adequate validity index, which can be used in the clinical practice of health professionals.

The survey is an essential tool for measuring knowledge, attitude, and practice of self-care in leprosy. The aim is to prevent disabilities through self-care and reduce the stigmas and prejudices associated with the disease.

Authors' contributions

Conception of the work design and writing of the manuscript or relevant critical review of the intellectual content: Gomes CA, Lopes MSV, Alves SAA. Final approval of the version to be published and responsibility for all aspects of the text in ensuring the accuracy and integrity of any part of the manuscript: Gomes CA, Lopes MSV, Alves SAA, Maia ER, Cavalcante EGR, Lima CKF, Silva JWM.

References

1. Ministério da Saúde (BR). Estratégia nacional para o enfrentamento à hanseníase 2024-2030 [Internet]. 2024 [cited Aug 13, 2024]. Available from: <https://www.gov.br/saude/pt-br/centrais-de-conteudo/publicacoes/svsa/hanseníase/estrategia-nacional-para-enfrentamento-a-hanseníase-2024-2030/view>

2. Serrano-Coll H, Wan El, Restrepo-Rivera L, Cardona-Castro N. Leprosy reactions: unraveling immunological mechanisms underlying tissue damage in leprosy patients. *Pathog Dis.* 2024;82:ftae013. doi: <https://doi.org/10.1093/femspd/ftae013>
3. Kumar V, Cheng SY. Examining the factors impacting integrated service delivery in leprosy elimination programs in Bihar. *Soc Dev Issues.* 2023;45(2):3. doi: <https://dx.doi.org/10.3998/sdi.4343>
4. Santos ILP, Abreu Filho FA, Pinho JBF, Cavalcanti LSR, Cruz Neto PR, Carvalho BA, et al. Estudo das formas clínicas da hanseníase em humanos: Brasil, Piauí e Teresina de 2013 a 2022. *Rev Electr Acervo Saúde.* 2024;24(9):e16197. <https://doi.org/10.25248/reas.e16197.2024>
5. Titik J, Nuridayanti A. The relationship of the level of knowledge about leprosy and self care agency in leper patients at the leper poly, Daha Husada hospital, Kediri. *J Sci Res Educ Technol.* 2022;1(2):545-57. doi: <https://doi.org/10.58526/jsret.v1i2.273>
6. Hannan M, Notobroto HB, Hidayat S, Mumpungtias ED, Hasina SN. Behavior of patients with leprosy in disability prevention through patients' self care: a literature review. *Int J Health Sci.* 2022;6(7):3504-27. doi: <https://doi.org/10.53730/ijhs.v6nS7.12622>
7. Silva IMC, Dias FER, Sousa RJA, Costa AGS, Filgueiras LA, Almeida YS. A importância do autocuidado na hanseníase: uma revisão da literatura. *Educ Ciênc Saúde.* 2020;7(2):180-96. doi: <https://dx.doi.org/10.20438/ecs.v7i2.295>
8. Rachael D, Oumer A, Mersha K, Abraham T, Abebaw F, Gail D, et al. Knowledge, attitudes and practices of health professionals towards people living with lymphoedema caused by lymphatic filariasis, podocniosis and leprosy in northern Ethiopia. *Int Health.* 2022;14(5):530-6. doi: <https://doi.org/10.1093/inthealth/ihab067>
9. Chariglione IPFS. Conhecimento, atitude e prática: conceitos e desafios na área de educação e saúde. *Rev Educ Saúde.* 2020;8(1):190-98. doi: <https://doi.org/10.29237/2358-9868.2020v8i1.p190-198>
10. Jacob LMS, Lopes MHBM, Shimo AKK. Instrument about knowledge, attitudes, and practices of pregnant women about the hypertensive disease of pregnancy. *Rev Rene.* 2021;22:e60040. doi: <http://doi.org/10.15253/2175-6783.20212260040>
11. Martins RMG, Dias IKR, Sobreira CLS, Santana KFS, Rocha RMGS, Lopes MSV. Development of a booklet for self-care promotion in leprosy. *Rev Enferm UFPE on line.* 2019;13:e23987. doi: <https://doi.org/10.5205/1981-8963.2019.239873>
12. Cabral BT, Alves SAA, Martins RMG, Albuquerque GA, Cavalcante EGR, Lopes MSV. Validação de cartilha educativa para promoção do autocuidado a pessoa com hanseníase. *Rev Cientif Enferm.* 2021;11(36):289-9. doi: <https://dx.doi.org/10.24276/rrecien2021.11.36.289-299>
13. Polit DF, Beck CT. Fundamentos da pesquisa em enfermagem: avaliação de evidências para as práticas da Enfermagem. Porto Alegre: ArtMed; 2018.
14. Jasper MA. Expert: a discussion of the implications of the concept as used in nursing. *J Adv Nurs.* 1994;20(4):769-76. doi: <https://dx.doi.org/10.1046/j.1365-2648.1994.20040769.x>
15. Liu Z-Y, Zhou Y-Y, Lin W-X, Kuang Y-P. Knowledge, attitude, and practice of pre-hospital emergency and their influencing factors among caregivers for older adults: a cross-sectional survey. *Acta Paul Enferm.* 2024;37:eAPE03035. doi: <https://doi.org/10.37689/acta-ape/2024A0000030355>
16. Alexandre NMC, Coluci MZO. Validade de conteúdo nos processos de construção e adaptação de instrumentos de medidas. *Ciênc Saúde Coletiva.* 2011;16(7):3061-8. doi: <https://dx.doi.org/10.1590/S1413-81232011000800006>
17. Santos AS, Rodrigues LN, Andrade KC, Santos MSN, Viana MCA, Chaves EMC. Construction and validation of an educational technology for mother-child bond in the neonatal intensive care unit. *Rev Bras Enferm.* 2020;73(4):e20190083. doi: <https://doi.org/10.1590/0034-7167-2019-0083>
18. Lins MLR, Evangelista CB, Gomes GLL, Macedo JQ. Home self-care after gynecological surgeries: elaboration and validation of educational material. *Acta Paul Enferm.* 2021;34:eAPE03154. doi: <http://doi.org/10.37689/acta-ape/2021A003154>
19. Melo PSA, Andrade PON, Vasconcelos RL, Oliveira SC, Mendes RCMG, Linhares FMP. Validation of the knowledge, attitude and practice survey on

- nursing assistance during delivery and childbirth. *Texto Contexto Enferm.* 2021;30:e20200420. doi: <https://dx.doi.org/10.1590/1980-265X-TCE-2020-0420>
20. Ferreira LS, Dias GAS, Silva TBV. Autocuidado em hanseníase na atenção primária a saúde: avaliação do conhecimento de usuários de uma unidade básica de saúde autocuidado em hanseníase na APS. *Rev CPAQV [Internet]*. 2020 [cited Aug 13, 2024];12(3):2-10. Available from: <https://revista.cpaqv.org/index.php/CPAQV/article/view/582/pdf>
 21. Brito GKK, Villaverde EM, Santana EMF, Silva MA, Oliveira SHS, Soares MJGO. Actitud y práctica de cuidado personal en la enfermedad de Hansen: construcción y validación psicométrica de instrumentos de medición. *Enferm Glob.* 2021;20(64):532-83. doi: <https://dx.doi.org/10.6018/eglobal.472321>
 22. Xu L, Jin G, Li X, Shao Y, Li Y, Zhang L. Self-care ability and life quality of cured leprosy patients: the mediating effects of social support. *Healthcare (Basel)*. 2023;11(23):3059. doi: <https://doi.org/10.3390/healthcare11233059>
 23. Joseph JN, Fernandes MS. Knowledge and perception of leprosy patients toward self-care practice in Mangalore, India: a cross-sectional study. *J Prev Diagn Treat Strateg Med.* 2024;3(2):100-6 doi: https://doi.org/10.4103/jpdtm.jpdtm_28_24
 24. Muldoon OT, Jay S, O'Donnell AT, Winterburn M, Moynihan AB, O'Connell BH, et al. Health literacy among self-help leprosy group members reduces stereotype endorsement and stigma-related harm in rural Nepal. *Health Soc Care Community.* 2022;30(6):2230-9. doi: <http://dx.doi.org/10.1111/hsc.13771>
 25. Martins RMG, Alves DA, Alves SAA, Silva KN, Torres RAM, Martins FJG, et al. Leprosy health technologies in primary health care: a scoping review. *Rev Enferm UERJ.* 2024;32(1):e79681. doi: <https://doi.org/10.12957/reuerj.2024.79681>
 26. Oliveira AS, Vasconcelos EMR, Barbosa KPM, Ferreira GAG, Ribeiro Junior JLC, Silveira JVV. Tecnologias educacionais associadas à prevenção de incapacidades advindas da hanseníase. *Rev Enferm Atual In Derme.* 2022;96(40):e-021328. doi: <https://doi.org/10.31011/reaid-2022-v.96-n.40-art.1402>
 27. Pinto RMF, Pinheiro RA, Queiroz DT, Mota JVF, Mota FGA, Gonçalves VF, et al. Construção de tecnologia educativa para pessoas acometidas pela hanseníase. *Conjecturas [Internet]*. 2021 [cited Aug 10, 2024];21(5):920-32. Available from: <https://conjecturas.org/index.php/edicoes/article/view/438>



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