Understanding "patient discharge in leprosy": a concept analysis

Compreendendo a "alta em hanseníase": uma análise de conceito

La comprensión de la "alta en la lepra": un análisis de concepto

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ABSTRACT

Objective: To analyze the concept of patient's discharge in cases of leprosy.

Methods: Theoretical study based on the methodological framework of concept analysis. A bibliographical survey was carried out from December 2015 to January 2016 using the bases SCOPUS, CINAHL, PUBMED, LILACS, SCIELO and BDENF, by use of the descriptors "Leprosy" and "Patient Discharge", resulting in 13 studies.

Results: The following were identified as possible uses of the concept: discharge by cure, drug use discharge, bacteriological discharge and post-discharge. The attributes defined were completion of the multidrug therapy, completion of the multidrug therapy for paucibacillary leprosy, completion of the multidrug therapy for multibacillary leprosy and cure from leprosy. The presence of an M. leprae infection, symptoms present in the skin and peripheral nerves, diagnosis and treatment and leprosy reactions were identified as antecedents. Consequents were exclusion from the active leprosy record and continuity of health care. One model case and one opposing case were presented.

Conclusions: The analysis broadened the concept "hospital discharge in leprosy", providing other meanings than the clinical focused on multidrug therapy.

Keywords: Leprosy. Patient's discharge. Concept formation. Nursing.

RESUMO

Objetivo: Analisar o conceito de alta em casos de hanseníase.

Métodos: Estudo teórico pautado no referencial metodológico de análise de conceito. Realizou-se levantamento bibliográfico de dezembro de 2015 a janeiro de 2016, nas bases SCOPUS, CINAHL, PUBMED, LILACS, SCIELO e BDENF, mediante uso dos descritores "Hanseníase" e "Alta do Paciente", obtendo-se 13 estudos.

Resultados: Identificou-se alta por cura, alta medicamentosa, alta bacteriológica e pós-alta como possíveis usos do conceito. Os atributos definidos foram conclusão da poliquimioterapia, conclusão da poliquimioterapia para paucibacilares, conclusão da poliquimioterapia para multibacilares e cura da hanseníase. Como antecedentes, identificou-se infecção pelo M. leprae, acometimento de pele e de nervos periféricos, diagnóstico e tratamento e reações hansênicas. Saída do registro ativo de casos de hanseníase e continuidade de atenção em saúde foram os consequentes. Apresentou-se um caso modelo e um caso contrário.

Conclusões: A análise ampliou o conceito "alta em hanseníase" para além da clínica focada na poliquimioterapia.

Palavras-chave: Hanseníase. Alta do paciente. Formação de conceito. Enfermagem.

RESUMEN

Objetivo: Analizar el concepto de alta en lepra.

Métodos: Estudio teórico basado en la análisis de concepto. Se efectuó una revisión de la literatura entre diciembre de 2015 y enero de 2016 en las bases SCOPUS, CINAHL, PUBMED, LILACS, SCIELO y BDENF mediante el uso de los descriptores "lepra" y "alta del paciente", os cuales encontraron 13 estudios relacionados.

Resultados: Se identificó alta debido a curación, alta por medicamentos, alta bacteriológica y post alta como posibles usos del concepto. Los atributos definidos fueron la finalización de la poliquimioterapia, la finalización de la poliquimioterapia para paucibacilares, la finalización de la poliquimioterapia para multibacilares y la cura de la lepra. Como antecedentes, se identificaron la infección por M. leprae, manifestación repentina de piel y de nervios periféricos, el diagnóstico y tratamiento de las reacciones de la lepra. Salida del registro activo de casos de lepra y continuidad en la atención a la salud fueron los consiguientes.

Conclusiones: El concepto "alta en lepra" fue ampliado más allá de la clínica enfocada en la poliquimioterapia.

Palabras clave: Lepra. Alta del paciente. Formación de concepto. Enfermería.

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INTRODUCTION

Leprosy is curable and treatment is offered free by the Unified Health System (SUS), which, associated with the technological revolution mediated scientific advances providing changes and therapeutic innovations in the overall health work process, and particularly for the attention to leprosy[1]. Despite the implementation of control strategies and elimination as a public health problem, this disease affects about 1.5 million people worldwide[2].

It is noteworthy that, of the new cases detected in the world in 2011, India accounted for 58%, ranking first in the world, followed by Brazil, accounting for 16% of new cases reported in 2011. In considering the Americas, Brazil ranks first, with about 33,955 new cases according to the World Health Organization (WHO)[3].

Although it has treatment and is curable, the population's limited knowledge, late diagnosis and the poor structure offered by the health care network for leprosy contribute to the amount of people living with sequelae[4]. It is noteworthy that the peripheral nerve involvement with the consequent installation of physical disabilities is strengthened by lepra reactions[5].

It is estimated that an average of two to three million people worldwide live with some sequel due to leprosy[1]. This is a disturbing tendency, especially when emphasizing that an estimated 20% of new cases are diagnosed with some degree of disability, and 15% will develop a disability during or after specific multidrug therapy (MDT) for leprosy[6].

Due to the magnitude of the existing problems after completion of MDT, coupled with the fragile health system provided to those individuals who carry with them the scars left by leprosy[5], it is necessary to take more effective actions at the time of diagnosis and after the end of treatment[2].

When considering the presence of neurological impairment and the consequent disabilities in individuals who have completed MDT for leprosy, which is a serious problem to be faced[7], the need for patient follow up that structures defined actions[8].

Faced with the achievements and challenges that characterize leprosy in its historical, social, and stigmatizing route, confined to neglected diseases. This study of concepts seeks to clarify and promote reflection in order to seek a more meaningful understanding and to promote the understanding of patient discharge in leprosy with a view to the organization of health care for those who have completed drug therapy, thus justifying its relevance for clinical, epidemiological and scientific practice. In this perspective, the question is: what is the concept of high leprosy? Therefore, this study aims to: analyze the concept of patient discharge in leprosy.

METHOD

Theoretical study guided in the methodological framework of concept analysis. It is agreed that a concept is defined as a mental construct about certain phenomenon, identified by presenting certain attributes that set it apart from other concepts. They are considered essential for the development of research[9].

Concept analysis is a process that occurs randomly, according to the following steps: concept identification; definition of the conceptual analysis purpose; verification of the possible uses of the concept; identification of the defining attributes; establishment of a model case; determining borderline, contrary, invented and illegitimate cases; definition of terms that precede and result from the concept; and the determination of empirical references. It is emphasized that, depending on the concept analysis, some of these may be suppressed [9].

In this heuristic and polissemic perspective of the intention to examine a particular concept, some measures regarding validity, trustworthiness and reliability, it is necessary to conduct a comprehensive literature survey of studies related to the concept in question [9]. To avoid superficiality, it is also recommended that an integrative literature review be developed, following the steps: identification of the research question and purpose of the study, literature survey, data evaluation, data analysis and presentation[10].

This theoretical-conceptual articulation allows the identification of textual elements related to patient discharge in leprosy and the operationalization of the concept of analysis. Based on methodological recommendations, the following question was raised: what is the knowledge produced in the literature on the leprosy patient discharge?

The recovery and selection of published and defining studies of the review met the following eligibility criteria: full articles available through the use of the Universidade Federal Rio Grande do Norte's proxy, in Portuguese, Spanish and English, and that address content related to the theme in study. Publications relating to editorials, letters to the editor, abstracts, expert opinions, reviews, theses and dissertations were excluded. It is noteworthy that for the execution of the journal survey, a time frame concerning the year of publication was not established.

The bibliographic survey took place in the months of December 2015 and January 2016, in the following databases: SCOPUS, *Cumulative Index to Nursing and Allied Health Literature* (CINAHL), and PUBMED, accessed through the Capes Journal Portal, using descriptors indexed in *Medical Subject Headings* (MeSH); in addition to using

the databases Latin American Literature in Health Sciences (LILACS), *Scientific Electronic Library Online* (SciELO) and Nursing Database (BDENF), accessed through the Virtual Health Library (VHL) with Health Sciences Descriptors (DeCS).

The uncontrolled Leprosy and Patient Discharge descriptors (or *Leprosy* and *Patient Discharge* for selection via MeSH), associated with the boolean operator *AND*, were used to hold the literature survey. The research process of publications is depicted in Figure 1.

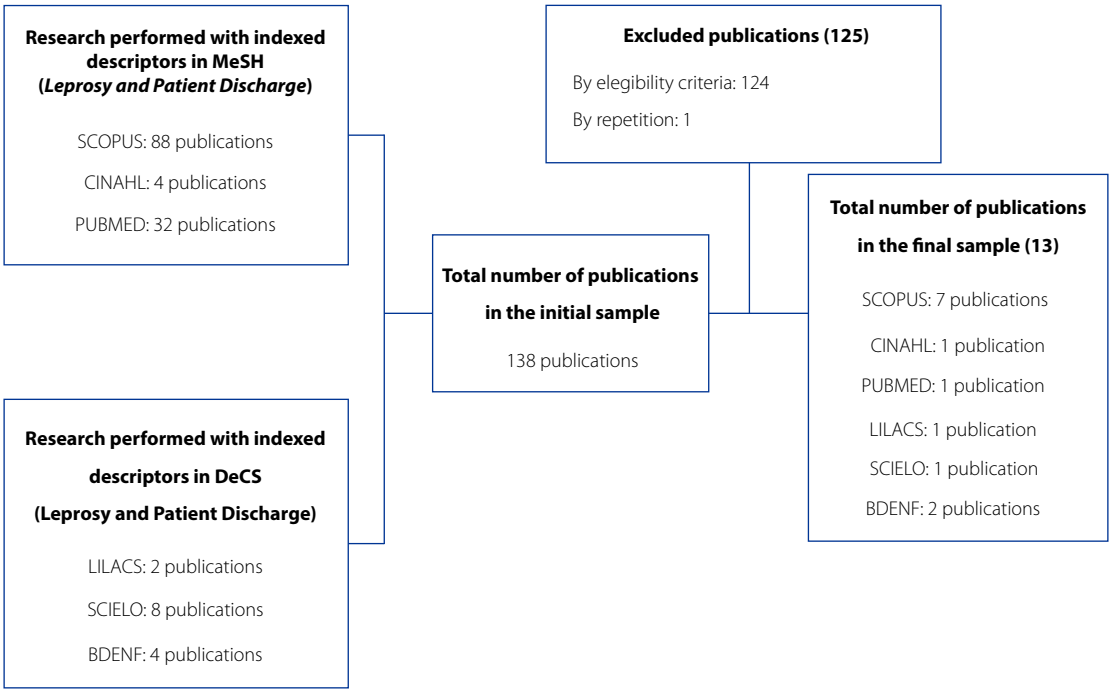

Figure 1 - Flow chart of search strategy for articles included in the integrative review

Source: Research data, 2016.

Once the references for analysis were established, all material was read to extract data that characterize a publication (databases, journal, title, author, year of publication and language), in addition to the identification of elements related to the concept (use, attributes, antecedents and consequents). The presentation of the results in relation to the objective of this work is given in a descriptive way by the discussion of the steps selected for the analysis of the concept of patient discharge in leprosy, following the steps of the reference used[9].

RESULTS AND DISCUSSION

Analyzing the selected articles, a predominance of publications in English[6,11-17] was observed, totaling 61.53% (8 items), and the others[18-22] were in English, highlighting the periodic with the highest number of publications being from the Revista da Sociedade Brasileira de Medicina Tropical (Journal of the Brazilian Society of Tropical Medicine), with a total of 15.38% (2 articles)[6,12].

Based on the visibility achieved by the review, the steps proposed are performed according to the Concept Analysis Model[9]: concept selection; determination of the objectives of the conceptual analysis; identification of possible uses of the concept; determining attributes; identifying concept antecedents and consequents; presentation of a model case and an opposing case.

It is noteworthy that this study did not complete the steps to identify *borderline*, invented and illegitimate cases, proceeding to other methodological requirements, which were sufficient to the analysis of patient discharge in leprosy. Analogous, because this is an abstract concept, the description of empirical references has not been operationalized.

Concept selection and determination of the objectives of the conceptual analysis

Leprosy as an infectious disease of compulsory notification and mandatory investigation is caused by the action of the etiologic agent *Mycobacterium leprae*, which results

in impairment in the skin and peripheral nerves with conclusive disabilities and physical deformities if not diagnosed and treated in its early stages, disabilities are assessed by a neurological examination of eyes, hands and feet[23]. Leprosy sequelae may arise before, during or after treatment of leprosy with specific MDT, with the possibility of worsening the patient's status due to possible immunological reactions[24-25].

Epidemiological indicators of leprosy in Brazil point to a total of 127,083 new cases diagnosed from year 2011 to 2015, of which 28,761 were identified in 2015. That year also obtained a high overall detection coefficient, by presenting a rate of 14.07 cases per 100,000 inhabitants; and a percentage of 83.5% of cured patients among new cases, seen as a stratification parameter classified as regular before the disease control goals[26].

When considering the situation surrounding the disease process to discharge of patients with leprosy, it is necessary to analyze the concept of "patient discharge in leprosy". From the perspective of health as a historically constructed process, which involves elements that extrapolate clinical biologicist, the health care provided by the Unified Health System (SUS) requires consideration of the health needs of the population, structuring actions and services that impact positively on process of health and disease[27].

In leprosy, the illness depends on the interaction between the biological agent *M. leprae* with the human being, which is conditioned by environmental, socioeconomic, social and psychological factors. In face of the illness, the treatment also permeates these determinants associated with the structuring and implementation of health policies[28]. The way health services are organized, together with the type of housing, unfavorable socioeconomic conditions and the immune system of the individual, are elements that maintain a direct relationship with cases of leprosy relapse[29].

Regarding the rise in leprosy, on one side is the possibility of developing nerve damage and physical disabilities after completing the specific treatment and, on the other, the bureaucratic organization of the user management until the exclusion of their active registration before the Ministry of Health, as of which they are no longer considered a case of leprosy. This fact is not in accordance with the literature and the experience that recommends the need for user monitoring and structuring of health services, with a view to comprehensive care after treatment with MDT[25,30].

Uses of the concept of patient discharge in leprosy

The concept uses make inference to the varied ways of expressing the term under review, identified by the search strategy and reading of various sources[9]. In the review conducted for this specific case, four possibilities of use were found related to the term patient discharge in leprosy: patient discharge by cure[12,14,21], drug discharge[6,15,19], bacteriological discharge[21-22] and post-discharge[11,15-17].

The four terms (patient discharge by cure, drug discharge, bacteriological discharge and post-discharge) refer to the mental construct of patient discharge in leprosy and refer to the period that starts after completion of MDT, whose pattern layout is composed of two groups of drugs, depending on the operational classification of leprosy cases: dapsone and rifampin or dapsone, rifampicin and clofazimine[31].

Grammatically classified as a noune, that names beings, the term "discharge" is described as determining the end of treatment[32]. From this perspective, it is understood that there is no longer any need for therapeutic interventions. However, it is emphasized that such uses of the concept of patient discharge in leprosy only define the completion of drug therapy as a criterion for discharge, disregarding the installed sequelae or the possibility of reactive episodes[21].

By understanding the natural history of leprosy, it is necessary to structure means to intervene in any possible complications set on by the disease after discharge from MDT, preventing the installation process and worsening of physical disabilities based on the planning and development of necessary interventions according to the peculiarity of each individual in the various levels of care and health care[28].

Determination of attributes, antecedents and consequents of patient discharge in leprosy

Attributes are considered terms or words used in order to describe the characteristics of the concept, allowing the author to have a broad view of what is under analysis[9]. For the identification of attributes inherent to the concept of patient discharge in leprosy, we used the following question: what are the characteristics of the concept indicated by the authors in the literature?

In response to the inquiry, listed are some attributes of the concept of patient discharge in leprosy: completion of MDT[6,11-12,17-18,21]; completion of MDT regimen for paucibacillary cases (PB)[6,14,17]; completion of MDT regimen for multibacillary cases (MB)[6,14,17,22]; and curing leprosy[6,11-12,17,21-22].

Cases considered as PB are those with up to 5 body lesions, negative smear and does not transmit the bacillus. The default MDT scheme for these cases involves dapsone (taken daily) and rifampicin (supervised dose) doses, distributed in 6 cartouches to be taken within 9 months[31,33].

Those classified as MB have more than 5 lesions, positive smear and are a source of transmission for *M. leprae*. Their treatment includes dapsone and clofazimine (taken

daily), as well as a supervised monthly dose of rifampicin, whose recommendation is 12 cartouches within 18 months[31,33]. The number of doses and duration of multidrug therapy recommended to treat leprosy, is regarded as the only criterion for discharge by cure of the disease[22].

With respect to antecedents, they refer to events that have occurred prior to the concept [9] and have been identified in the literature searched from the following question: what events or situations are present before discharge in leprosy?

The occurrence of some elements characterized as antecedent to the concept of patient discharge in leprosy were verified. Initially, there is the infection by *Mycobacterium leprae,* through the upper airway, and there may be involvement of the skin and peripheral nerves with motor and sensory changes[12-17.22].

Leprosy cases are defined by individuals presenting one or more of these features individually, isolated or simultaneously: skin lesion with impaired sensitivity, neural thickening and positive leprosy smear. The negativity of the smear does not exclude the case as leprosy[33]. In 2015, leprosy presented the prevalence rate of 1.01 cases per 10,000 inhabitants, with a total of 20,702 cases in active record on December 31 of said year, therefore above the global leprosy elimination goal (less than one case per 10,000 inhabitants) proposed by the WHO, with a high detection rate in children under 15 years (4.46 per 100 thousand inhabitants)[26].

The dermatoneurological changes are the main clinical manifestations and have high disabling potential[33]. The most common skin lesions are: white or red patches, plaques, infiltration, tubers and nodules. The main peripheral nerve branches affected are the trigeminal, facial, ulnar, radial, median, common fibular and posterior tibular nerves. With regard to physical incapacities, they may be classified as grade 0 (no neural impairment in the eyes, hands or feet); grade I (indicates the presence of changes in sensitivity); and grade II (installed disability and deformities such as lagophthalmos, claws, bone resorption, fallen hands and feet, etc.)[34].

Physical disabilities worsen due to leprosy reactions, characterized by the action of the immune system on the bacilli and may be: type 1 (reverse reaction), triggered by cellular immunity; or type 2 (ENL - Erythema nodosum leprosum) related to humoral immunity[35]. The development of leprosy reactions before completion of MDT has been cited in some studies[12,16-17,20].

However, it is necessary to reinforce the importance of early diagnosis, as the means of control in the Brazilian reality and the immediate start of treatment to reduce the consequences and break the transmission chain[21]. Such measures have been identified in some publications selected for this concept analysis[6,13-14,17-18,21-22], and is an antecedent of the high diagnosis of leprosy.

It is recognized that the longer the duration of the disease, the greater the degree of acquired disability, so the sooner it is diagnosed and treatment is indicated, the greater the likelihood of preventing physical incapacities. The need to develop health education actions as a means to disseminate the signs and symptoms of leprosy in order to promote early diagnosis is emphasized[22.34-36]. In this sense, recent or old family contacts of MB and PB patients should be examined, regardless of the period of coexistence[34].

Continuing the analysis step, the concept consequents are defined as a result of the occurrence of the conceptual element[9]. The consequents "exclusion from the active leprosy record" "continuity of health care" were identified in this study from the following question: which events result from patient discharge in leprosy?

The exclusion of patients in the active leprosy record is one of the consequents found[6,11]. It is emphasized that the completion of MDT is intrinsically related to the user's exclusion from the active record, failing to be systematically monitored and accompanied by health services[11].

Once excluded from the ministerial record, there is the continuity of health care[11,14-16,18,20-22], considered another consequent of the concept patient discharge in leprosy. The need for follow-up takes place due to the possibility of worsening the degree of disability [6,11,13-16,21-22], development of leprosy reactions[12,14,17,21-22] and any recurrence episodes[12,17,19].

Professionals, including managers, often associate drug discharge from follow-up discharge for uses who have concluded leprosy treatment, as they are focused on management, planning and evaluation, under a procedural perspective[34]. In this sense, it is expected that the care network provides a structure to give appropriate follow-up, with scheduled returns, even when the patient has been excluded from the active leprosy record[7,11,37].

With a view to provide comprehensive care, it is necessary to structure a multidisciplinary team able to monitor as the individuality of patients who have completed the MDT treatment[2]. To achieve this proposal, it is relevant to know the social determinants involving the health-disease process surrounding leprosy to ensure the integrity of health care and address the social inequities[28].

Ordinance No. 149/2016 of the Ministry of Health, establishes guidelines for surveillance, care and elimination of leprosy as a public health problem with the strengthening of surveillance and care of leprosy, the organization of the comprehensive care network and promotion of health, based on communication, education and social mobilization[34].

Regarding the nurse, it is the provision of a care plan that integrates the recognition of the subjectivity of individuals as more than a biological body, due to the historical context of segregation and stigma surrounding leprosy[37-39].

The antecedent and consequent attributes of the concept "patient discharge in leprosy", which complement and expand the understanding of the concept are shown in Chart 1. In this sense, it meets the recommendation of the production and dissemination of information on treatment/cure/patient discharge in leprosy through the analysis and the effectiveness of interventions such as subsidies for planning new actions and recommendations to be implemented in health care.

Attributes	Antecedents	Consequents
Completion of polychemotherapy; MDT completion for paucibacillary; MDT completion for multibacillary; Leprosy cure.	*M. leprae infection;* Impairment of skin and peripheral nerves; Diagnosis and treatment; Leprosy reactions.	Exclusion from the active registry of leprosy cases; Health care continuity.

Chart 1 - Attributes, antecedents and consequents of the concept of patient discharge in leprosy. Natal/RN, 2015-2016

Source: Research data, 2016.

Patient discharge in leprosy - model case

The model case aims to make a paradigmatic illustration of the concept, by exemplifying a case that presents defining attributes[9]. As model for the concept of patient discharge in leprosy, the following case is mentioned:

Female patient, 37, attended the health service with hypopigmented patches of skin (totaling 8), said to be dormant. Thickening of the ulnar nerve was also present. When performing a smear for leprosy, the result was positive. It was diagnosed as a case of leprosy and MDT for MB cases was administered. For nine months, specific MDT for leprosy was administered, with monthly monitoring for supervised dose application. Treatment was completed according to the schedule, the patient was considered cured from leprosy and discharged, being excluded from the active case record. However, due to the grade I physical disability, the patient continued to be monitored by the health services.

This fictional case presents the attributes inherent to the concept of patient discharge in leprosy, such as completion of treatment and cure for leprosy, as well as antecedent and consequent elements to the concept.

Opposite case of patient discharge in leprosy

The opposite case is a clear example of that does not represent the concept[9]. The following presents an opposite case of the concept of patient discharge in leprosy.

Male patient, 28, was diagnosed as a case of PB leprosy for presenting a hypopigmented spot, but with abnormal sensitivity, and negative smears. Specific MDT for PB cases began, and after 4 months of treatment, there was improvement of sensitivity, discontinuing use of the medication.

This fictional opposite case contradicts the essential attributes to identify the concept of patient discharge in leprosy. Although diagnosed, treatment is initiated with the presentation of clinical improvement, the patient did not complete the full course of MDT for PB cases, therefore not achieving the cure for leprosy.

FINAL CONSIDERATIONS

The concept "patient discharge in leprosy", resulting from this analysis is inscribed as a clinical condition where the patient initially infected with *M. leprae* and diagnosed as a case of leprosy initiated and completed treatment, either for a PB, or MB case within the period estimated by WHO. It called attention to the fact that after completion of MDT and exclusion of the patient's active leprosy record, the person affected by the disease generally continues to be monitored as a result of physical disabilities acquired, or possibility of presenting a leprosy reaction.

It is considered that the concept "Patient discharge in leprosy" goes beyond the simplified conception of discharge for person affected by the disease. The restricted and conclusive conception of drug therapy is only a dimensional aspect of the problem, which needs more studies, given its complexity. Therefore, patient discharge is a phenomenon wrongly reported in the literature, in a simplistic and one-sided way, focusing on the completion of MDT/WHO for leprosy with a conclusive inactivity of Hansen's bacillus.

In this sense, the person affected by leprosy migrates from the constituency of neglected diseases and is included in the list of chronic and disabling diseases. In other words, it ceases to be an infectious disease and becomes a chronic condition of disability and the possibility of the emergence of immune responses in subjects who are discharged.

The consequent to the concept of patient discharge in leprosy, "continuity of health care," is relevant to clinical practice, in addition to surveillance, care and elimination of

leprosy as a public health problem in Brazil. Thus, it requires and is expected to speed the reorientation of activities and services in order to provide qualify health care to individuals who have concluded that the specific treatment for leprosy and who, despite having been discharged, requires specific care in health.

Therefore, the concept of "patient discharge in leprosy" is broadened beyond the clinic focused on elimination and control, surveillance, attention and eliminating leprosy as a public health problem, through family health strategies and reference centers, and requires a redesign of action posture and health professionals, particularly nurses and society.

This study may contribute to the teaching of health/nursing in order to point out that health care cannot be interrupted and the responsibility for the patient can not be forgotten by the family health strategy or the specialized services, even in the light of the semantic denotation of the noun "discharge", injuring the principle of comprehensiveness of health care.

Education for SUS cannot stick to textbooks and reductionist standards, against the formation of critical and reflective practitioners, which promote a broader view beyond the biological body, to also consider the health needs of the population under their responsibility, based not only on the paradigm of cure, but on promoting the health of individuals and the population, as well as disease prevention.

As a study limitation, restriction to publications in the Portuguese, English and Spanish languages is mentioned, failing to include other possible studies in other languages; beyond the databases used, which could be expanded to other material, which reinforces the thesis of leprosy indexation as a neglected disease or those neglected under treatment.

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