



REVIEW


**Knowledge and attitudes of students towards Hansen's disease: a bibliometric study in national and international literature**

Conhecimentos e atitudes de estudantes frente à hanseníase: um estudo bibliométrico  
Conocimientos y actitudes de estudiantes sobre la Enfermedad de Hansen: estudio bibliométrico en las literaturas nacional e internacional


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**ABSTRACT**

**Objective:** to analyze the characteristics of productions about students' knowledge and attitudes towards Hansen's disease in national and international literatures. **Method:** bibliometric documentary study, considering the period 1990-2019 and the databases Latin American and Caribbean Health Sciences Literature (LILACS), Medical Literature Analysis and Retrieval System Online (MEDLINE) and Nursing Database (BDENF), using the descriptors and combinations: hanseníase and estudantes, lepra and estudantes. The mapping considered: the profile of the productions; the goals; the study design; the conclusions. **Results:** 17 productions were obtained. As for the profile, eight were in English, eight in Portuguese and one in Spanish. As for the objectives, of the five domains according to Bloom's Taxonomy, three were applied. As for the design, studies with students from health courses (29.5%), nursing (23.5%), basic education (23.5%), and other university courses (23.5%) stand out. As for the conclusions, more studies are highlighted in which unfamiliarity and stigmas are manifested among students. **Conclusion:** the bibliographic production is diversified in terms of profile characteristics, objectives and design; it is accentuated in the conclusions that, even with the presence of unfamiliarity and stigmas among the students facing leprosy, studies with educational interventions made possible changes in attitude among the participants.

**Descriptors:** Hansen's disease. Health Education. Public Health. Students.

**RESUMO**

**Objetivo:** analisar as características das produções sobre conhecimentos e atitudes de estudantes frente à hanseníase nas literaturas nacional e internacional. **Método:** estudo documental bibliométrico, considerando o período 1990-2019 e as bases de dados Literatura Latino-Americana e do Caribe em Ciências da Saúde (LILACS), Medical Literature Analysis and Retrieval System Online (MEDLINE) e Base de Dados da Enfermagem (BDENF), utilizando os descritores e combinações: hanseníase and estudantes, lepra and estudantes. O mapeamento considerou: o perfil das produções; os objetivos; o delineamento do estudo; as conclusões. **Resultados:** obtiveram-se 17 produções. Quanto ao perfil, oito estavam na língua inglesa, oito em português e uma em espanhol. Quanto aos objetivos, dos cinco domínios segundo a Taxonomia de Bloom, três foram aplicados. Quanto ao delineamento, destacam-se estudos com alunos de cursos da saúde (29,5%), de enfermagem (23,5%), da educação básica (23,5%), de outros cursos universitários (23,5%). Quanto às conclusões, ressaltam-se mais estudos em que se manifestam desconhecimentos e estigmas entre os estudantes. **Conclusão:** a produção bibliográfica é diversificada quanto às características de perfil, objetivos e delineamento; acentua-se nas conclusões que, mesmo com a presença de desconhecimentos e estigmas entre os estudantes frente à hanseníase, estudos com intervenções educativas possibilitaram mudanças de atitude entre os participantes.

**Descritores:** Hanseníase. Educação em Saúde. Saúde Pública. Estudantes.

**RESUMÉN**

**Objetivo:** analizar las características de las producciones sobre conocimientos y actitudes de estudiantes sobre la Enfermedad de Hansen en las literaturas nacional e internacional. **Método:** estudio documental bibliométrico del período 1990-2019 con las bases de datos Literatura Latinoamericana y del Caribe en Ciencias de la Salud (LILACS), Sistema de Análisis y Recuperación de Literatura Médica en Línea (MEDLINE) y Base de Datos de Enfermería (BDENF), utilizando los descriptores y combinaciones: hanseníase and estudantes, lepra and estudantes. El mapeo consideró: el perfil de las producciones; los objetivos; el diseño del estudio; las conclusiones. **Resultados:** 17 producciones. En cuanto al perfil, ocho fueron en inglés, ocho en portugués y uno en español. Objetivos: de los cinco dominios según la Taxonomía de Bloom, se aplicaron tres. Diseño: se destacan los estudios con estudiantes de cursos de salud (29,5%), enfermería (23,5%), educación básica (23,5%) y otros cursos universitarios (23,5%). Conclusiones: se destacan más estudios en los que se manifiestan desconocimientos y estigmas entre los estudiantes. **Conclusión:** la producción bibliográfica está diversificada en cuanto a características de perfil, objetivos y diseño; se acentúa en las conclusiones que, a pesar de los desconocimientos y estigmas entre los participantes, estudios con intervenciones educativas posibilitaron cambios de actitud.

**Descritores:** Enfermedad de Hansen. Educación para la Salud. Salud Pública. Estudiantes.

## INTRODUCTION

Despite its ancestry in the world and the discovery of its control and cure since the 1980s, Hansen's disease has a major impact on public health in different countries, including Brazil. In 2018, the country continued to have a large number of detected cases (28 660 cases), representing 93% of all notifications in the Americas<sup>1</sup>.

It is a transmissible, chronic, degenerative and neglected disease, linked to magical-religious stories and marked by stigma and prejudice. It is a disease that constitutes a threat in impoverished contexts, acquiring an endemic character in areas of difficult access to health services or in urban conglomerates with a low Human Development Index (HDI). In face of social inequities, the risks multiply, because in such environments, due to the financial costs that people have related to the minimum attendance of their needs, they still have to face, in many times, the possibility of loss of work autonomy to generate their own income<sup>2</sup>.

The Global Leprosy Strategy 2016-2020, in its first pillar - "Strengthen government ownership, coordination and partnership" -, has the following component: "Facilitating and conducting basic and operational research in all aspects of leprosy and maximize the evidence base to inform policies, strategies and activities", as this can generate valuable information about the components of the program, which cannot be obtained by monitoring activities or routine evaluations<sup>3</sup>.

As leprosy is a curable disease, the biggest problem is outside the biological scope, but in the social and cultural context. The consequences caused by the disease impact the routine of people affected by leprosy through the permanent threat of prejudice, stigmas, suffering, abandonment, deformities and psychosocial problems<sup>4</sup>. These sociocultural aspects, constructed and shared by the population, can signal what knowledge, beliefs and myths society shares about the disease.

Studies in the psychosocial field indicate that social representations, theories of common sense, woven into groups of belonging and that circulate about a certain object, influence people's attitudes towards it, that is, knowledge and attitudes towards leprosy can interfere in acting before people with leprosy. It is stated that these common-sense theories related to an object (in this case, leprosy), are formed by cognitions, knowledge arising from the subjects' experiences and observations, from the beliefs and previous information circulating in their social environment<sup>5</sup>. Considering that school spaces are fertile fields for the dissemination of knowledge about what affects society, especially endemic diseases, and can contribute to the reframing of beliefs and myths that circulate in society in general, they are therefore privileged spaces for research and action.

What has been accomplished in research on the knowledge and attitudes of students towards leprosy in these spaces, as well as the conclusions that could be established is what we are interested in knowing. In this way, through reviews, especially bibliometric

ones, it is possible to map the production on the subject and to show production indicators on the theme. In this context, the question that guided the bibliometric study was: what are the students' knowledge and attitudes towards leprosy addressed in scientific productions and published in national and international journals? The aim of this study is to analyze the knowledge and attitudes of students towards leprosy in national and international journals in the period 1990-2019.

## METHOD

The study is documentary, bibliometric, with a quantitative approach. Bibliometric studies have as main objective to map the scientific production with a view to the elaboration of metric indicators about different themes; it is used in all areas of knowledge, including nursing. They have also been used to identify methodological trends and the most used journals<sup>6</sup>.

The databases were consulted: Latin American and Caribbean Health Sciences Literature (LILACS), Medical Literature Analysis and Retrieval System Online (MEDLINE) and Nursing Database (BDENF), using the following descriptors and respective combinations: hanseníase and estudantes, lepra and estudantes.

The inclusion criteria adopted were: (a) publication period from 1990 to 2019; (b) productions in Portuguese, English or Spanish; (c) productions made with students on knowledge and attitudes towards leprosy. All publications that did not have an abstract were excluded.

To select the productions, the title and abstract were initially read; if the inclusion criteria were met, they were read in full to verify compatibility with the object of study. The period of data collection, recording and organization took place between April and May 2020.

The following were considered for the mapping of productions: profile; goals; study design; data production strategies; conclusions. For the analysis of the profile, the following variables were considered: year; language; number of authors per production; journals (Bradford's law, referring to the journals where the articles were published) and repositories. Regarding the objectives, Bloom's Taxonomy and its respective domains were considered. As for the study design, was considered the approach, the country of origin, the place, the participants. For the conclusions, the students' knowledge and attitudes towards leprosy were considered.

A total of 145 productions were selected: were excluded 23 duplicates and 82 others because they did not meet the inclusion criteria, reaching 40 eligible for full reading. Of these 40, 23 were excluded because they did not converge with the object of study, leaving 17 productions for the final sample.

## RESULTS

### Production profile

As for the year, two productions were identified in the years 1990, 2014, 2016, 2017; in the other years, only one production (1999, 2005, 2007, 2008, 2012, 2013, 2019). As for the language, eight were in English, eight in Portuguese and one in Spanish. Regarding the database, nine were found in LILACS, six in MEDLINE and two in BDNF.

Regarding the number of authors, five productions were found with three authors, three productions with four and six authors, two productions with two and five authors and two with one author (doctoral theses).

Alluding to the publications, three productions were found at Hansen. int, two in Indian J Lepr, and one in other journals. The two theses are in the USP repository, São Paulo and Botucatu (Chart 1). The articles were identified by the letter A and the theses by the letter T.

### Objectives of the productions

From the analysis of the objectives, it was found that of the five domains according to Bloom's

Taxonomy, three were applied, namely: Understanding domain (10 productions), Analysis domain (4 productions) and Evaluation domain (4 productions). The domain Comprehension had the highest frequency (58.8%). One of the articles (A6) adopted two domains (Chart 2).

### Design of productions

Among the 17 productions found: 15 were articles and two theses. Regarding the type of article, 14 research articles and an experience report. Chart 1 makes it possible to view the productions according to the approach, study location, participants and data production as indicated in the summary (Chart 3).

As for the type of approach, the quantitative approach predominated (68.7%). Regarding the country, the preponderance of studies took place in Brazil (64.7%). Concerning the location, there was a majority of Higher Education Institutions (64.7%), as well as student participants in higher education (64.7%). As for data production, the questionnaire was the most used strategy (75%).

Chart 1 - Distribution of productions according to title, journal, database and language

Code	Title	Journal	Database	Language
A1	Influencing factors of nursing students' knowledge about leprosy: a cross-sectional study.	Indian J Lepr	MEDLINE	English
A2	Effects of environment and education on knowledge and attitude of nursing students towards leprosy.	Indian J Lepr	MEDLINE	English
A3	Measurement of Change in the Knowledge and Attitude about Leprosy in Physiotherapy Students Undergoing Intensive One Week Training in Leprosy.	J Infect Dev Ctries	MEDLINE	English
A4	Um estudo sobre conhecimentos, crenças e atitudes em relação à hanseníase em estudantes de Jaipur, Rajasthan.	Cad. saúde colet.	LILACS	Portuguese
A5	Conocimientos y actitudes de los estudiantes universitarios hacia la lepra.	Salud Publica Mex	MEDLINE	Spanish
A6	Fábrica de imaginário, usina de estigmas: conhecimentos e crenças de uma comunidade escolar sobre hanseníase.	Rev. enferm. UFPE on line	BDNF	Portuguese
A7	Nível de conhecimentos sobre a lepra em estudantes universitários.	Rev. baiana saúde pública	LILACS	Portuguese
A8	Perception of adolescents on Hansen's disease.	Indian J Lepr	MEDLINE	English
A9	Conhecimento de estudantes de medicina sobre hanseníase em uma região endêmica do Brasil.	Hansen. int	LILACS	Portuguese
A10	Evaluation of Hansenology Teaching by Students of a Medical, Public, Brazilian School.	Hansen. int	LILACS	English
A11	Compartilhando saberes e experiências de ensino em um Centro de Referência em Hanseníase.	Rev. pesqui. cuid. fundam. (Online)	LILACS	Portuguese
A12	Conhecimentos e necessidades de aprendizagem de estudantes de fisioterapia sobre a hanseníase.	Hansen. int	LILACS	Portuguese
A13	Is knowledge of leprosy adequate among teachers? A comparative study.	Lepr Rev	MEDLINE	English
T14	O processo de ensino-aprendizagem da hansenologia na formação profissional de graduandos de fisioterapia.	Botucatu	LILACS	Portuguese
T15	Decodificação de um texto sobre hanseníase por estudantes, docentes e pessoal de enfermagem.	USP	LILACS	Portuguese
A16	Conhecimento teórico sobre hanseníase por estudantes universitários da área da saúde em município do nordeste brasileiro.	Online braz. j. nurs. (Online)	BDNF	Portuguese
A17	Contribuição de práticas educativas para conhecimento de escolares do ensino médio sobre hanseníase.	Rev. bras. educ. méd	LILACS	English

**Chart 2 - Distribution of productions according to objectives and domains according to Bloom's Taxonomy.**

Code	Objectives	Domains
A1	Identify the factors that influence the knowledge of nursing students about leprosy.	Understanding
A2	Find the effects of the environment and education on the knowledge and attitude of nursing students in relation to leprosy.	Understanding
A3	To assess whether intensive training for physiotherapy students resulted in an increase in their knowledge about leprosy and a change in attitude.	Assessment
A4	Determine knowledge, beliefs and attitudes towards leprosy of schoolchildren in the Jaipur district	Understanding
A5	Determine knowledge and attitudes towards leprosy among students at the University of Guadalajara.	Understanding
A6	To verify the knowledge about Hansen's disease among teachers and students of schools and to evaluate how the theme was approached in schools.	Understanding and Assessment
A7	Identify students' attitudes towards leprosy	Understanding
A8	Analyze the perception of adolescents about leprosy	Analysis
A9	To evaluate the knowledge about leprosy of the students of the last year of the medical course of public universities in the capital of the state of Pará, comparing it with variables of academic formation.	Assessment
A10	To evaluate the teaching about leprosy in a medical school located in a metropolis in southeastern Brazil with a low prevalence coefficient for leprosy.	Assessment
A11	Discuss a curricular internship experience in nursing based on the problematizing methodology, in a Reference Center for Leprosy	Understanding
A12	Describe and analyze the knowledge of physiotherapy students about leprosy, before formal contact with the topic at the University / Faculty	Understanding
A13	Check the knowledge about leprosy among teachers and students	Understanding
Tese 14	Describe the teaching-learning process of leprosy in the professional training of undergraduate physiotherapy students	Understanding
Tese 15	Analyze the understanding of a text on Hansen's disease, by different groups related to nursing, consisting of: teachers, nurses, nursing students and auxiliary nursing staff	Analysis
A16	To analyze the theoretical knowledge about leprosy by university students in the health field in a city in the Northeast of Brazil.	Analysis
A17	Analyze high school students' knowledge of leprosy, before and after the practice of health education in classrooms.	Analysis

**Chart 3 - Distribution of productions according to the study design**

Code	AB	Study Location	Participants	Data Production
A1	QT	Brazil - a university in the Northeast region	167 nursing students	Questionnaire
A2	QT	Brazil - two Nursing Schools	First and third year students	Pre-test, training, post-test.
A3	QT	India - an Undergraduate Course	42 Physiotherapy students	Pre-test, intensive course, post-test.
A4		India - two school units	1199 students (rural and urban) studying in 10th grade and above.	Questionnaire
A5	QT	Mexico - several Thematic University Centers	1300 students over 18 years of age	Questionnaire
A6	QL	Brazil - a community surrounding a former colony (leprosarium) in the Northeast region	Teachers and students	Interview
A7	QT	Mexico - several Colleges	1000 students from various courses	Questionnaire
A8	QL	Brazil - a public school	30 teenagers	Group Dynamics
A9	QT	Brazil - a public university in the Northern Region	Final year medical students	Questionnaire
A10	QT	Brazil - a medical school in the Southeast region	Medical students (freshmen and interns)	Questionnaire
A11	Experience report	Brazil - a Reference Center for Leprosy	Nursing Students in the Curricular Internship	Problematizing Methodology
A12	QL	Brazil - a school in the Southeast Region	51 fourth year undergraduate physiotherapy students	Questionnaire
A13	QT	India - a rural school	30 teachers and 120 students	Questionnaire
T14	QT-QL	Brazil - a school in the Southeast Region	51 students in the first moment and 63 in the following moments	Questionnaire and Training-Action
T15	QT-QL	Brazil - an institution in the Southeast Region	Teachers, nurses, nursing students and auxiliary nursing staff	Analysis of a text - Listening and Discourse
A16	QT	Brazil - an institution in the Northeast Region	University students in the field of health	Questionnaire
A17	QT	Brazil - an institution in the Northeast Region	200 high school students	Pre-test, health education practice, post-test.

### Conclusions of the productions

We found in the reading of the conclusions, that the productions without educational intervention on leprosy (76.4%) accentuated unfamiliarity and stigmas among students facing leprosy (A1, A4, A5, A6, A7, A8, A9, A10, A12, A13, A14, A15, A16). The results indicate that students have doubts, there is a shortage of specific technical-scientific knowledge, and many beliefs about the disease. In all studies, students expressed ignorance and/or incomplete or inadequate concepts. In general, the level of knowledge was considered regular and/or unsatisfactory.

As for the attitude, the conclusions of the analyzed productions revealed both positive dimensions and precarious reactions in relation to leprosy. It was found that the word stigma was mentioned in three productions (A4, A5, A6). The authors of the analyzed productions emphasize that it is necessary to improve the current measures of health education, using updated educational strategies to reduce the stigma of Hansen's disease. They also recommend raising the levels of learning in public health in general and on leprosy in particular, so that students can act as subjects capable of filling information gaps, favoring the understanding of the disease and reducing the prejudice and stigma associated with the disease and the patient. In general, the authors state that leprosy is still mentioned as a stigmatizing disease today.

The productions in which educational interventions were carried out (23.65), the conclusions indicated that knowledge and attitudes were enhanced among students who participated in the actions carried out (A2, A3, A11, A17). As for the educational interventions performed, there are: a training (A2), an intensive course (A3), a group discussion (A11), a health education practice (A17).

The conclusions indicate that the participants in the interventions acquired more knowledge about leprosy during educational activities. Those who were trained in the hospital environment of patients with leprosy had higher scores of knowledge and attitude than those trained in the general hospital environment. Thus, the authors point out that both knowledge and attitudes were enhanced through the interventions performed. The responses obtained after the interventions-actions were satisfactory, and there was gain in information, as well as manifestation of more positive attitudes.

In studies in which there was no educational intervention by the researchers, the conclusions emphasize that the students' knowledge was insufficient and the attitudes predominantly negative. However, in the studies in which the researchers carried out an educational intervention, the findings obtained before and after pointed out favorable changes, both in relation to knowledge and in relation to scores of attitudes. Thus, it is understood that research with educational intervention tend to contribute to the reframing of knowledge and attitudes towards Hansen's disease.

### DISCUSSION

According to the Theory of Social Representations<sup>7</sup>, there are three dimensions present in a content analysis of the subjects' manifestations about certain objects of representations, in this study, of Hansen's disease: information (the concept); the representation field (the image); and the attitude. The first refers to the organization of a group's knowledge about a given social object (in this case, leprosy), changing according to the quantity and quality of that knowledge. The representation field gives evidence of the image, of the constructed social model, that is, how the elements already built in the representation are constituted. The attitude refers to the orientation of the behavior one has concerning the object of the social representation, making evident the affective reactions of the people that are reflected in their actions towards it (dimension of the affections/attitudes).

Discriminatory attitudes towards leprosy, evidenced in the findings of this study, probably exist due to the fragmentation of knowledge about the disease, knowledge that is the domain of the health team, but not always disseminated in the academy, or, when they are, they do not cause enough impact to the point to encourage them to become agents that spread knowledge about leprosy, thus contributing to the deconstruction of negative conceptions and already overcome by the discoveries of science<sup>8</sup>.

The subjectivity expressed in the students' actions and reactions to leprosy reveals that in the life in society there are symbolisms inherent in culture, where social representations, traditions and ways of being/acting originate from interpersonal relationships throughout their experiences<sup>9</sup>. Thus, it is from the image built on leprosy (imagery dimension) that the new (unfamiliar) gives evidence of social representations, mobilizing affections (fear, terror, crying, among others) and guiding behaviors (attitudes) in view of leprosy<sup>10</sup>.

As the skin is an important organ of interaction with the environment and with people, the bodily alterations cause by Hansen's disease, especially the spots and leprosy reactions, stigmatize the patient, triggering the image of a person whose approach should be avoided, as they have this disqualifying mark<sup>11</sup>.

The objective of any health education process is to encourage people's independence, highlighting knowledge and opinions, environmental, social, cultural and emotional contexts, as well as the group's vulnerabilities<sup>12</sup>.

When the knowledge of leprosy is structured in scientific knowledge, it generates positive attitudes favorable to the development of healthy practices, with less stigma and prejudice. However, such attitudes cannot be affected by previous knowledge, that is, beliefs, attitudes and worldviews. The positive attitude favors students' interest in adopting healthy practices as part of the health awareness process<sup>13</sup>.

Knowledge about leprosy is based on the individual perception of several factors in confluence, transcending the biological dimension and pointing to social, psychological, environmental and cultural values that reveal the ancestry and multidimensionality of this disease, its reminiscences, affections and attitudes<sup>14</sup>.

Thus, education about leprosy must be built through the subject in his relationship with others and with the world. It becomes an instrument of social transformation when it trains professionals who are critical, creative, reflective and capable of exercising their social role as an agent of change in society and in themselves. Negative dimensions in the face of leprosy are still a reality, but educational actions on the disease enhance the resignification of these dimensions. Both with elementary and higher education students, with emphasis on students of health courses, educational interventions on leprosy must be promoted<sup>14</sup>.

Nowadays, students in the health area, especially nursing students, are demanded the incorporation of new ways of understanding and caring, directing them to a practice focused on the reflection of the assistance built up until then and the possibility of problematizing and transforming both practice and themselves. These are strategies in favor of a teaching-learning practice in leprosy, in which training should be assumed as a health education policy, prioritizing the exchange of knowledge regarding current guidelines and practices, clarifying doubts and transmuting the negative conceptions about this disease<sup>15</sup>.

Research with students reinforce the importance of apprehending social representations about diseases. Carrying out a study on these aspects goes in the direction of implementing comprehensive health care for people, since it exposes the existence of more than one rationality<sup>16</sup>.

When approaching people living in a colony hospital, we found a set of social representations associated, above all, with dimensions historically linked to leprosy, which refers to prejudice, fear of contagion, mutilation and chronic wounds. Thus, it appears that despite modernization, the "Hansen's disease" object of representation does not necessarily separate from the notion of leprosy, which carries an extremely negative burden<sup>17</sup>.

Researches that carry out educational interventions favor the production of reframings, increase the occurrence of positive attitudes and should be stimulated. Most studies with this perspective approach changes in attitude among participants, which indicates the potential of the strategy<sup>18</sup>. In this sense, they should also be encouraged among students regarding the representations about Hansen's disease.

## CONCLUSION

The bibliographic production is diversified in terms of profile characteristics, objectives and design; it is emphasized in the conclusions that, even with the presence of unfamiliarity and stigmas among students facing Hansen's disease, studies with

educational interventions made possible changes in attitude among those who participated.

It is considered that students build knowledge and attitudes from the community-social contexts in which they live and school-institutional contexts in which they are inserted. It is believed that in school-institutional spaces there are multiple possibilities to develop strategies that enhance such knowledge and attitudes, which may have a positive impact on students' future relationships and actions towards people with leprosy. With regard to students of health courses, such impacts will reflect on the ways of acting/caring for people, groups, families and the community in general.

It is noteworthy that health professionals are those who work directly in the National Leprosy Control Program, being daily involved with patients. Investing in the formative process of graduation in health courses and, especially, in Nursing, with the implementation of health education actions and training in leprosy control actions, provides an extension of the teaching-learning process, expanding the spaces for discussion in addition to the classrooms and the times provided for in the teaching plans on the subject, stimulating maturity and commitment to the care provided in field practices aimed at the real health needs of the population.

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