

**PUBLIC HEALTH ALERT! PERCEPTION OF STUDENTS OF
FUNDAMENTAL AND MEDIUM EDUCATION ON LEPROSY
IN HYPEREDEMIC AREA OF MARANHÃO, BRAZIL**

**ALERTA SAÚDE PÚBLICA! PERCEPÇÃO DE ALUNOS DO
ENSINO FUNDAMENTAL E MÉDIO SOBRE A HANSENÍASE
EM ÁREA HIPERENDÊMICA DO MARANHÃO, BRASIL**

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ABSTRACT

Maranhão is one of the Brazilian states with the highest prevalence and new cases of leprosy, being therefore a hyperendemic state. Being a problem that can be aided with help of the educational mechanisms of health in classroom that become important to promote the participation of students in the knowledge process, discussion about the disease and contribute to its prevention and early diagnosis. In this context, the present study aimed to present the importance and the need to approach the themes related to health and daily life of students, as well as make a survey of the knowledge they bring to the classroom about leprosy theme. Two schools were analyzed, one from the state network and one from the private network, with application of questionnaires and subsequent lectures on the subject for clarification and doubts. The results obtained confirmed that students have low scientific knowledge about leprosy. In relation to the presence of the subject prejudice, we obtained relatively high indexes. Referring to advertising campaigns they were considered limited, for only revealing information about the initial symptoms of the disease, being able to treat aspects of prophylaxis, contagion, treatment and physical incapacities related directly to the disease.

Keywords: Education. Prejudice. Prevention.

RESUMO

O Maranhão é um dos estados brasileiros com maior índice de prevalência e casos novos da hanseníase, sendo por isso, um estado hiperendêmico. Sendo uma problemática que pode ser auxiliada com a ajuda dos mecanismos de educação em saúde em sala de aula que se tornam importantes para promover a participação dos alunos no processo de conhecimento, discussão sobre a doença e contribuir para sua prevenção e diagnóstico precoce. Neste contexto, o presente trabalho objetivou apresentar a importância e a necessidade da abordagem dos temas relacionados à saúde e ao cotidiano dos alunos, como também, fazer um levantamento do conhecimento que eles trazem para a sala de aula sobre o tema hanseníase. Foram analisadas duas escolas, uma da rede estadual e uma da rede privada, com aplicação de questionários e palestras posteriores sobre o tema, para esclarecimentos e dúvidas. Os resultados obtidos confirmaram que os alunos apresentam baixo conhecimento científico sobre a hanseníase. Em relação à presença do tema: preconceito, obtivemos índices relativamente altos. No que corresponde às campanhas publicitárias foram consideradas limitadas, por apenas divulgarem informações sobre os sintomas iniciais da doença, podendo tratar aspectos de profilaxia, contágio, tratamento e incapacidades físicas relacionadas diretamente à doença.

Palavras-chave: Educação. Preconceito. Prevenção.

INTRODUCTION

The leprosy¹ theme, when taken to the classroom, is treated as a problem far from reality and approached with technical explanations, which prevents the student from perceiving this disease as a present reality, a serious public health problem in our country. Faced with such a situation, the school should provide students with a broader view of health, something that helps them develop a critical view of the reality they live in. Health education aims to inform about symptomatological aspects, the importance of periodic examination and early treatment, and should be carried out as an active, critical and transformative process, in order to contribute to the acquisition of correct concepts and to improve the quality of life of the students and their families, and not only transmit information and hygiene rules. (FERNANDES et al., 2005; OLIVEIRA, 2007).

Therefore, the present study aimed to know the perception of primary and secondary school students from a public school in the metropolitan region of São Luís, Maranhão, on the topic of leprosy.

THEORETICAL BASIS

Leprosy is a chronic, slowly evolving infectious-contagious disease caused by an obligate intracellular parasite, the *Mycobacterium leprae* bacillus, which manifests itself through dermatoneurological signs and symptoms (ARAÚJO, 2003). Its clinical manifestations includes several patterns of immune response, which may range from vigorous cellular immune responses to absent, at the tuberculoid and lepromatous poles, respectively (MODLIN, 2010).

Peripheral nerve involvement is the main characteristic of the disease, capable of causing physical disabilities, which can develop to deformities. These disabilities and deformities can cause to the patient decreasing work capacity, limit social life and psychological problems, being also responsible for stigma and prejudice against those with the disease (COROLIANO-MARINUS et al., 2012).

The correct classification of leprosy is essentially important for its diagnosis and treatment. Currently, two systems are used to classify the disease: the Ridley and Jopling

¹ Although in Brazil the term "hanseníase" is used to refer to the disease caused by the Hansen's bacillus (*Mycobacterium leprae*), in this article we will use the term "leprosy", used in the English language.

system and an operational classification proposed by the World Health Organization (WHO) (SHEPARD; MCRAE, 1968).

Although there has been an improvement in the care of leprosy assisted cases, with a consequent reduction in their incidence, the disease remains a national public health problem (WHO, 2016). Despite all the existing knowledge, there is still a great deal of stigma and prejudice regarding this disease, which makes it difficult to carry out control and prophylaxis measures. Therefore, the use of education on health is a necessary instrument to clarify the real consequences of the disease and, in particular, its prevention forms, in order to demystify negative aspects such as incurability, mutilation, rejection and social exclusion (COROLIANO-MARINUS et al., 2012).

According to the World Health Organization (WHO), only in 2016, 143 countries reported 214,783 new cases of leprosy, representing a detection rate of 2.9 cases per 100,000 inhabitants. Brazil has the highest number of leprosy cases in the Americas (93%) and ranks second in the world, behind India and ahead of Indonesia (MAGALHÃES; ROJAS, 2007, WHO, 2016).

In Brazil, Maranhão is the leader in absolute cases in the Northeast and third in the country (behind only Tocantins), with about 3.5 thousand new cases per year reported to the Ministry of Health. Poverty and low social indices, as well as the lack of doctors, are among the main difficulties pointed out to deal with the problem. From the 217 municipalities in Maranhão, only 17 did not report cases of leprosy in 2015. Maranhão also leads in cases among children under 15 years of age: about 400 per year, or 12% of the total state (WHO, 2015).

The most effective way to combat the disease is through early diagnosis, which requires a systematic work of orientation of the population regarding its signs and symptoms. The strategies of health education in the classroom are important, since they can promote the participation of students in the discussion process, reducing the barriers of knowledge about the disease and favoring its prevention and early diagnosis (MOREIRA et al., 2014).

METHODOLOGY

The research was developed at a school in the metropolitan region of São Luís (MA), between February and March of 2018. A public school was randomly selected from the state's

educational network. At the school, students were given a Free and Informed Consent Form, to be signed by the parents, allowing the student to participate in the research.

It was applied a closed questionnaire, composed of twenty questions, in order to ascertain the student's perception of their knowledge about the disease, presence of possible prejudice and importance attributed to the campaigns carried out by the media. The questionnaire considered the following aspects of the disease: terminology, transmission, etiological agent, treatment, prophylaxis, epidemiology, social and educational aspects.

The questionnaires were administered on days pre-established by the school during school schedule for Natural Science/Biology of each class and grade. Initially, the students were informed about the questionnaire's purpose, communicating it was a research about alternative conceptions related to leprosy, therefore, without evaluation character to obtain a grade. After the questionnaire's application, a lecture was given on the subject addressed to clarify doubts.

RESULTS AND DISCUSSION

It were applied 264 questionnaires. The survey involved 52 elementary students, with ages between 13 to 15 years and 212 students from high school aged from 16 to 19 years old.

With regard to knowledge about the disease, where were analyzed the conceptions of leprosy, its form of contagion, symptomatology and treatment, students expressed a greater affinity for the disease's historical denomination, known as leprosy (82.19%).

The social image of leprosy is millenarian. Amauer Hansen, in 1873, attested that this disease was of infectious contagious character, denying the secular idea of hereditary transmission, plague, punishment or sin. Even with the passage of history and scientific development was not possible to change the fear and prejudice related to the disease. Corroborating this, leper colonies or hospital colonies, isolating the sick and making the patient a confined one without alternative treatment, which represented his death, permanently marking the patient with deformity, suffering, abandonment, and causing impacts that interfere in his life (DUCATTI; SOUZA, 2017).

According to TAGLIETTI and FUHR (2013), historically, no disease has had as much impact and social stigma as leprosy. Referred to as sin, punishment and impurity, there still

was the assumption of an association with hereditary transmission through the observation of cases between relatives, which further contributed to the strengthening of the stigma. In the 1970s, on the initiative of Professor Abrão Rotberg, the term “Hanseníase” was created in Brazil, replacing the term Leper, whose objective was to reduce the stigma created by the term used in the past. Initially, the State of São Paulo in 1970, and posteriorly, the Ministry of Health of Brazil in 1975, through the Law 9.010/95, officialized the use of hanseníase terminology (FARIA; SANTOS, 2015).

Regarding the transmission of the disease, a large percentage of the students did not present knowledge about the form of contagion (45.45%); and contagion occurs through contact with droplets of secretions eliminated by a bacillus-infected person in the untreated multibacillary form through the upper respiratory tract (MARTINS; SILVA 2011).

Almost half of the students (48.10%) reported not knowing the etiological agent of the disease (Figure 3). Leprosy is caused by the obligatory intracellular bacterium *Mycobacterium leprae*. This organism demonstrates a peculiar predilection for cutaneous cells and peripheral nerve cells (FINEZ; SALOTTI, 2011).

Regarding control and cure, it was verified that most of the students know that it has treatment (74.62%) and recognizes its dermatoneurological signs and symptoms (87.5%), indicated by skin spots and loss of sensitivity. However, 43.56% of the students are unaware that, from the beginning of treatment, the patient stops transmitting the disease and does not need to isolate himself from the family. Although it is a disease that has treatment, and can be cured, leprosy still causes stigma of exclusion. This is because it is a millennial disease, with countless histories and prejudices in antiquity (CID et al., 2012).

Regarding prophylaxis and epidemiological data (prevalence index), half of the students were unaware of this problem: 50% of them did not know there was such a high rate of leprosy in Brazil and 41.28% did not know the disease has not yet been controlled in our country. As several authors point out, among the several factors that hinder leprosy control, the low level of knowledge about the disease among students and health professionals is preponderant, considering that the awareness about it has been neglected in schools, even in endemic countries. (MCDOUGAL, 1985; OPROMOLLA, 1988; LASTÓRIA, 2003; EIDT, 2004).

Although 15.53% of the students know people with leprosy, it was observed that they

presented some kind of prejudice in their answers. When asked if the Hansen bacillus carrier should be removed from work, 44.31% of the students answered "yes", demonstrating a possible rejection of the sick person. Prejudice and discrimination against people with Hansen bacillus are mainly due to insufficient information about the disease, its transmission and treatment, which creates fear of attending the same places as a person affected by leprosy. These behaviors inhibit sick people from attending public and private places, for fear of discrimination and prejudice (CID et al., 2012). When questioned about the possible affective relationship, whether friendship or dating, with a leprosy carrier, 90.53% of students answered that they would not relate, corroborating the idea of prejudice by the students.

Still about the social aspect of the disease, 17.80% of students said they would not shake hands or sit next to a person with leprosy. The leprosy patient usually denies the disease and has a constant concern with their appearance, the negative impact of the disease on family and social life, in the acceptance of themselves and towards society, hindering adherence to treatment and acceptance of diagnosis. In the prevailing culture, physical patterns of beauty are often coupled with moral standards, so beautiful is linked with good, and the patterns that define the ugly induce the idea that it is also bad (SOUZA; MARTINS, 2018).

Regarding advertising campaigns and the importance of health education, it was verified that the most accessible means of communication is television, since 79 students (29.62%) said they had seen preventive campaigns about the disease. However, 122 students (46.21%) reported never observed any form of educational campaign about it. As for the means of dissemination, 44.31% of the students referred to internet and social networks and only 3% have heard about the topic on radio. According to BONFIM (2005), reports that the advertising campaigns on the disease are considered limited by only disclosing superficial information, such as initial symptoms of the disease, confirming the need to elaborate more comprehensive campaigns in the various means of communication, regarding the aspects of prophylaxis, contagion, treatment and physical disabilities.

With regard to health education, it was found that school do not promote lectures on the subject, since only 6.43% of the students responded positively. According to CID et al. (2012), prejudice can be minimized through health education in schools, guiding the population about transmission, treatment, and highlighting the cure. Thus, there will be understanding about the disease, minimization of prejudice, enabling the reintegration of the carriers to society. Table 1 summarizes the data collected on survey.

Table 1. Knowledge of students interviewed about leprosy.

Aspect	Response	Percentage (number of individuals/total)
Terminology	Leproy	82.19% (217/264)
	Hanseníase	17.80% (47/264)
	None of the alternatives	0% (0/264)
Transmission	Yes	54.54% (144/264)
	No	45.45% (120/264)
Agente of the disease	Yes	51.89% (137/264)
	No	48.10% (127/264)
Treatment*	No treatment	25.37% (67/264)
	Has treatment and recognizes the symptoms	87.5% (231/264)
	It has treatment, but doesn't recognize the symptoms	12.5% (33/264)
	Even with the treatment, the patient still transmits the disease and so needs to isolate himself from his family	43.56% (115/264)
	From the beginning of treatment, the patient stops transmitting the disease and does not need to isolate himself from his Family	56.43% (149/264)
Number of cases in Brazil	>1000 case/year	41.28% (109/264)
	1000-30000	8.71% (23/264)
	<30000 case/year	50% (132/264)
People known to have leprosy	Yes	15.53% (41/264)
	No	84.46% (223/264)
	If it was the boss, they'd keep the	44.31% (117/264)

Social aspects and prejudice*	bearer of the disease from work	
	Would relate affectively to a carrier of the disease	90.53% (239/264)
	They would shake hands or sit next to a carrier of the disease	17.80% (47/264)
Educational and advertising campaigns*	They never observed any form of campaign	46.21% (122/264)
	Television	29.62% (79/264)
	Radio	3% (8/264)
	Internet and social networks	44.31% (117/264)
Educational actions at school	Yes	6.43% (17/264)
	No	93.56% (247/264)

*Students could choose more than one alternative.

FINAL CONSIDERATIONS

It was observed that the students have low scientific knowledge about leprosy. Thus, it was confirmed the lack of awareness about this disease in schools, which remains a terrible public health problem in Brazil.

There was also noticed a high level of prejudice among the interviewed students. As far as information campaigns are concerned, it is possible to verify that they can be considered limited, simply for only disseminating information about the initial symptoms of the disease, demonstrating the need to develop campaigns that address aspects of prophylaxis, contagion, treatment and physical disabilities directly related to hyperendemic regions of the state related to leprosy.

It is noteworthy, therefore, the importance of school as an institution capable of promoting the development of awareness about the right to health, through scientific knowledge, with suitable and updated approaches on issues related to public health.

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