

# ATTRIBUTES OF PRIMARY HEALTH CARE IN LEPROSY CONTROL: NURSE'S PERSPECTIVE

## ATRIBUTOS DA ATENÇÃO PRIMÁRIA EM SAÚDE NO CONTROLE DA HANSENÍASE: ÓTICA DO ENFERMEIRO

## ATRIBUTOS DE LA ATENCIÓN PRIMARIA DE SALUD EN CONTROL DE LA LEPROSA: ÓPTICA DEL ENFERMERO

Gutemberg Santos de Sousa<sup>1</sup>  
Rodrigo Luís Ferreira da Silva<sup>2</sup>  
Marília Brasil Xavier<sup>3</sup>

**Objective:** to evaluate the presence and extension of the essential and derivative attributes of primary health care in a leprosy control program from the perspective of nurses. **Method:** an assessment study of health programs was developed between August 2015 and February 2016, with 11 nurses from primary health care units. Data were collected by means of a questionnaire that measured the presence and extension of attributes of primary health care in leprosy control. Statistical and descriptive analyses were conducted. **Results:** mean general scores and scores on the essential and derivative attributes showed high orientation to leprosy control actions, except for the attribute of access, which showed lower means than the cutoff score. **Conclusion:** despite the weaknesses identified, primary health care in the city presents high orientation to the development of leprosy control actions in primary health care.

**Descriptors:** Leprosy; Health Evaluation; Quality of Health Care; Nursing; Primary Health Care.

*Objetivo: avaliar a presença e a extensão dos atributos essenciais e derivados da atenção primária em saúde no programa de controle da hanseníase sob a ótica do enfermeiro. Método: estudo avaliativo de programas de saúde, realizado entre agosto de 2015 e fevereiro de 2016, com 11 enfermeiros de unidades de saúde da atenção primária. Na coleta de dados foi utilizado um questionário para medir a presença e a extensão dos atributos da atenção primária em saúde no controle da doença. Foi realizada análise estatística e descritiva. Resultados: o município apresentou, pela média dos escores gerais e dos atributos essenciais e derivados, alta orientação para as ações de controle da hanseníase, com exceção do atributo acesso, que recebeu média abaixo do ponto de corte. Conclusão: mesmo com as fragilidades identificadas, o município apresenta alta orientação para o desenvolvimento das ações de controle da hanseníase na atenção primária em saúde.*

*Descritores: Hanseníase; Avaliação em Saúde; Qualidade da Assistência à Saúde; Enfermagem; Atenção Primária em Saúde.*

*Objetivo: evaluar la presencia y la extensión de los atributos esenciales y derivados de la atención primaria de salud en el programa de control de la lepra en la óptica del enfermero. Método: estudio evaluativo de programas de salud, realizado entre agosto de 2015 y febrero de 2016, con 11 enfermeros de unidades de salud de atención primaria. Datos recolectados mediante cuestionario para medir presencia y extensión de los atributos de la atención primaria de salud para control de la enfermedad. Se realizó análisis estadístico y descriptivo. Resultados: el municipio presentó, por promedio de puntajes generales y de atributos esenciales y derivados, alta orientación hacia acciones de control*

<sup>1</sup> Nurse. Master of Health. Expert in Healthcare Services Audit and in Orthopedics and Traumatology. Belém, Pará, Brazil. gutenf@yahoo.com.br

<sup>2</sup> Physiotherapist. Doctor of Tropical Diseases. Professor at the State University of Pará. Belém, Pará, Brazil. rodrigolfs@yahoo.com.br

<sup>3</sup> Physician. Doctor of Neurosciences and Cellular Biology. Adjunct Professor at the Federal University of Pará. Belém, Pará, Brazil. mariliabrasil@terra.com.br

*de la lepra, exceptuando el atributo acceso, con promedio inferior al punto de corte. Conclusión: incluso con las debilidades identificadas, el municipio muestra alta orientación al desarrollo de acciones de control de la lepra en atención primaria de salud.*

*Descriptor: Lepra; Evaluación en Salud; Calidad de la Atención de Salud; Enfermería; Atención Primaria de Salud.*

## Introduction

Leprosy is a chronic infectious disease that mainly affects the skin and peripheral nerves; it exhibits a slow pace and chronic evolution. It has high incapacitating and stigmatizing power and historically leads to discrimination and isolation<sup>(1)</sup>.

Just in 2015, 290,048 new cases of the disease were reported in Brazil, an incidence of 14.2 per 100,000 inhabitants. In the state of Pará in the same period, 2,897 new cases of leprosy were reported, an incidence of 35.3 per 100,000 inhabitants. In the municipality of Canaã dos Carajás (Pará) in that same year, 32 new cases of leprosy were reported, an incidence of 95.1 per 100,000 inhabitants<sup>(2)</sup>.

Canaã dos Carajás is a municipality located in the southeast region of Pará state, 760 km away from Belém, the state capital. The municipality has a strong extractive sector focused on mineral extraction. This activity has led to a high per capita income that stands out in the state and national economic scenario due to the large number of jobs generated and the high migration flow of workers from other Brazilian states<sup>(3)</sup>.

Several municipalities with significant similarities regarding incidence of leprosy are located in the region. The alarming incidence of the disease in the municipality of Parauapebas (Pará), 62km from Canaã dos Carajás, provides a clearer understanding of the magnitude of the problem. In 2015, this municipality reported 132 new cases, an incidence of 69.5 per 100 inhabitants<sup>(4)</sup>. This illustrates the concern about the territory and its frontiers, considering the intensive daily flow between the two municipalities. Moreover, both share similar geographic and socioeconomic features.

In the light of its chronicity and need for continued care in all services through well-structured case surveillance, leprosy is an endemic disease, and its control demands planning by all health services. This planning requires consideration of the characteristics of the region and its municipalities, through structuring and adaptation of care networks, with primary care and all related services as the main players<sup>(5)</sup>.

In most countries where leprosy is endemic, its treatment has been integrated into local general healthcare services, abolishing exclusive therapy centers for the disease and establishing reference and counter-reference systems in services. Leprosy care services should provide broad coverage and be carried out in all health units through primary health care (PHC). Service should be focused on patients, ensuring their privacy and confidentiality. Moreover, diagnosis should be timely, therapy should be available free of charge, and proper referrals should be ensured in the event of complications, rehabilitation and other situations demanding specialized service<sup>(6)</sup>.

Primary health care is a strategy for (re)organizing the health system and providing a model for changing clinical care practices of health professionals. It is oriented by structuring axes that the international literature refers to as *core attributes* (care on first contact, longitudinality, integrality and coordination) and *derivative attributes* (family and community orientation and cultural competence)<sup>(7)</sup>. The evaluation of PHC attributes as components of a quality health system allows a description of the effectiveness of the care provided and its direct impact on the population's health<sup>(8)</sup>.

Evaluation of these attributes may be carried out separately or collectively, since they are strongly aligned with professional practices. One could say when all the core attributes are present, health services are providers of the care inherent to PHC. When services are oriented towards developing these attributes, they are capable of providing integral care to the population served<sup>(8)</sup>.

When the development of structuring axes (attributes) is put in practice, health services can be evaluated, notably leprosy control. Although such evaluations can point out both successes and failures, they may not explain the situations identified throughout the process, providing little explanation of the determinants of the problems<sup>(1)</sup>. In this light, evaluation means answering questions that could make services accountable to society through clear information about the development of actions or programs and contribute to improvement of control and management actions, in addition to subsidizing appropriate redirection of new actions to achieve proposed objectives<sup>(9)</sup>.

In the context of leprosy, service evaluation is crucial, since it is a priority problem for Brazilian health policy that demands actions to strengthen and control PHC. The use of appropriate instruments that allow the analysis of knowledge of achievement of primary care attributes facilitates planning actions for services, with direct impacts on their quality<sup>(10)</sup>.

More than just showing failures or successes, evaluations reflect actions and measures being carried out in services, contributing to their improvement with direct impacts on advances in the quality of life of the population served by the evaluated programs<sup>(9)</sup>.

Studying leprosy in hyperendemic municipalities with floating populations is a big challenge because of the widespread presence of determinants and constraints associated with the disease that sometimes cannot be controlled or monitored. Besides being challenging, such research can also make great contributions, because these hyperendemic municipalities

contribute to raising disease incidence rates at the state and national levels.

The objective of the present study was to evaluate the presence and extension of core and derivative primary health care attributes in a leprosy control program, from the perspective of nurses. This objective is justified because these professionals are closely linked to planning, management and service management actions. Therefore, they are more connected to care and work in health programs, with stronger links with communities and service users.

## Method

This was a study of health quality evaluation focused on leprosy control actions developed by health units linked to primary health care, aimed at deepening knowledge of the conditions and quality of care provided to users.

The survey was carried out in the municipality of Canaã dos Carajás (Pará), Brazil from August 2015 to February 2016. The municipality has eight family health teams and four health community agent teams distributed in three traditional health units and six family health units.

Eleven nurses from PHC teams voluntarily participated. The teams were part of the Family Health Strategy (FHS), Health Community Agent Strategy (HCAS) and Health Centers (HC); they provide care to users and develop actions of the municipal leprosy control program. The sample accounted for 91.7% of the universe eligible for the study; some professionals refused to participate in the study. The sample excluded health professionals who were absent from the health units on the days and at the times scheduled for interviews, as well as professionals who did not respond to previous contacts. All participants signed two-part free and informed consent forms regarding information about the study and ethical aspects related to studies involving human subjects.

Data were collected through a questionnaire composed of closed-ended questions to evaluate the following topics, or core and derivative

attributes: entry door, access, continuous care, integrality of services available and provided, coordination, family orientation, community orientation and professional orientation. The instrument was designed and validated in a previous study based on the Primary Care Assessment Tool (PCATool) - Brazil, which is a national reference for evaluative surveys in this area<sup>(10)</sup>.

The PCATool is an instrument based on the evaluative concepts proposed by Donabedian. It is based on the measurement of service-related items with a focus on the structure, process and results of the health services<sup>(11)</sup>. In Brazil this instrument gained ground because appropriate tools to measure these interactions in the context of PHC did not exist. Each version was adapted to the Brazilian reality and needs, through a process of translation and reverse translation, fitting, validation of both content and construct, and reliability analysis<sup>(8)</sup>.

To count the frequency of the evaluated attributes, first the frequency of responses to each item on the questionnaire was identified, paying attention to the percentage of missing items (answer 9 – don't know/don't remember), checking all questionnaires and highlighting the one with missing items to make the adaptations described below.

When less than 50% of the items were missing, the value "9" (don't know/don't remember) was transformed into "2" (probably not). This transformation is required to negatively score some health system features unknown to respondent<sup>(8)</sup>.

When more than 50% of items were missing (answer 9), they were excluded from the analysis of the score of the attribute to which they belonged if more than 50% of the items making up that attribute had valid answers. The score for the attribute was left blank (missing) in the database, and was not considered in calculating the average assigned to that attribute<sup>(8)</sup>.

The scores on each PHC attribute were calculated based on the average values of the answers to the items that make up each attribute or its component, representing its measurement

and extension in leprosy care in the context of PHC.

Then, the scores on each attribute or component were transformed into a 0-10 scale using the following formula:  $[\text{Score achieved} - 1 (\text{minimum value})] \times 10 / [4 (\text{maximum value}) - 1 (\text{minimum value})]$ .

The core PHC score was measured by the sum of the average scores of the components belonging to the core attributes – entry door, access, continuous care, integrality of services available and delivered and coordination – divided by the number of components. The derivative PHC score was measured by the sum of the average scores of components belonging to the derivative attributes – family orientation, community orientation and professional orientation – divided by the number of components. The overall score was measured by the sum of the average scores of the components belonging to the core attributes added to the derivative attributes, divided by the total number of components. The general score indicates the overall performance of PHC in leprosy control.

To evaluate the scores, the standards of the PCATool-Brazil were used. They are defined as follows<sup>(8,10)</sup>: Scores equal to or higher than 6.6 mean high orientation by services to PHC. In this survey it means that services are oriented to performing leprosy control actions (LCA) in the context of PHC. Scores below 6.6 indicate that services show little orientation to PHC. Here, it means that services show weaknesses in the performance of LCA in PHC.

Descriptive statistics were used to characterize the sample and describe performance (evaluation of the performance of PHC services in care of leprosy: description of scores for the attributes entry door, access, continuous care, integrality of services, coordination, family orientation, community orientation and professional orientation in addition to core, derivative and overall scores) of PHC services in care of leprosy in the municipality where the survey was carried out. The following measures were used: central tendency - mean and median; dispersion - standard deviation.

This survey was submitted to the Research Ethics Committee of the Tropical Medicine Faculty of the Federal University of Pará. It is a portion of the original study approved under Report No. 1.128.385 and CAAE: 44047915.0.0000.5172. It complies with all provisions of Decree 466/12 issued by the National Health Council, which sets forth criteria for research involving subjects.

## Results

Table 1 shows the description of the overall, core and derivative scores, and the PHC attributes in care of leprosy, according to the experience and perception of nurses working in PCH units, where the actions of the municipal program on leprosy control are developed.

**Table 1** – Description of overall, core and derivative scores and orientation attributes of PHC units in carrying out leprosy control actions, according to the experience of nurses. Canaã dos Carajás, Pará, Brazil, 2016. (N=11)

Scores	Minimum I-----I Maximum	Median	-{}-Mean (standard deviation)
Entry Door	6.6 I-----I 10	8.3	8.4 (±1.1)
Access	2 I-----I 7	6	5.9 (±1.4)
Continuous Care	4.6 I-----I 10	8.3	8.1 (±1.6)
Integrity - Services Available	8.7 I-----I 10	9.7	9.5 (±0.4)
Integrity - Services Delivered	7.3 I-----I 10	8.6	8.8 (±1)
Coordination	3.3 I-----I 10	8.3	7.8 (±1.9)
Family Orientation	3.3 I-----I 10	9.3	7.8 (±2.8)
Community Orientation	3.3 I-----I 9.3	8	7.8 (±1.8)
Professional Orientation	5.7 I-----I 10	9	8.5 (±1.6)
Core Score	2 I-----I 10	8.3	8.1 (±0.6)
Derivative Score	3.3 I-----I 10	8.5	7.9 (±1.6)
Overall Score	2 I-----I 10	8.3	8.2 (±0.7)

Source: Created by the authors.

The mean overall score for PHC orientation in leprosy care was 8.3 (±0.7), showing high orientation of health services in the municipality of Canaã dos Carajás (PA) towards the development of actions in this program.

When the core and derivative attributes are analyzed separately, it was found that the scores for both were above the cutoff point defined in the methodology of this study (6.6). The mean for core attributes was 8.1 (±0.6), and for derivative or qualifying attributes was 7.9 (±1.6), characterizing high orientation of PHC services in relation to leprosy.

Among the core attributes, the mean for attribute of access was 5.9 (±1.4), below the defined cutoff point. Since PHC services have some weaknesses, this is an indication that the required access is not being given to users. Therefore, the services are not properly oriented to the development of actions inherent to leprosy

control with regard to the actions evaluated by this attribute.

The remaining core and derivative attributes presented means above the cutoff point, indicating high orientation towards the development of leprosy control actions in PHC units in the municipality question. It is worth mentioning that the highest means were found for the attributes of integrity of services available, at 9.5 (±0.4), and integrity of services delivered, at 8.8 (±1).

According to Table 1, among the core attributes, the largest differences between means occurred in the items access (2 I-----I 7) and coordination (3.3 I-----I 10), evidencing higher discrepancies among the testimonies. Among the derivative attributes, the largest differences were observed in the items family orientation (3.3 I-----I 10) and community orientation (3.3 I-----I 9.3).

Among medians, the attribute of access had the lowest value (6) and the attribute of integrality of services available presented the highest value (9.7), reflecting the values found in the analyzed means.

## Discussion

Previous research has shown that PHC is the type of health care preferred by users who are seeking care for leprosy. In addition, it is recognized by the population as the entry for the leprosy program, as recommended by the current health policies<sup>(7)</sup>. This is supported by a study carried out in São José do Rio Preto (São Paulo), which showed that, in the event of all health conditions, mainly suspected leprosy, most users first seek basic health units<sup>(12)</sup>. Recognition by the population is important in consolidating PHC services and building links between the population and service provider units.

According to the evaluation by professional nurses working in PHC units, the services are seen as positive and highly oriented towards developing leprosy control actions. In general, this orientation towards control actions reflects the quality of care offered and the structure and working conditions likely to be suitable for the professionals, specifically in this case. This finding reinforces the similar findings of a study in the state of Minas Gerais, where evaluation of PHC attributes in a leprosy program by health professionals reached a mean of 8.1<sup>(10)</sup>.

According to the World Health Organization (WHO), quality of service, as proposed by the PHC attributes, should be guaranteed in routine services offered to the population, with a focus on actions to control leprosy, such as reducing delayed diagnoses and increasing the number of examinations of users, among other actions<sup>(6)</sup>.

The evaluation of core and derivative PHC attributes in the municipality of Canaã dos Carajás (Pará) found that the scores for both were above the cutoff point (8.1 and 7.9, respectively), characterizing high orientation of PHC services in relation to leprosy. However, the analysis of these attributes showed that some items failed to

reach satisfactory scores, leading to decreases in the final values of the means of the attributes in question. This can be observed in the evaluation of access, which had a mean below the cutoff point. This attribute is related to the location and operating times of facilities, the degree of tolerance of spontaneous demand and non-scheduled appointments, and users' perceptions regarding the availability of these services<sup>(7)</sup>.

Access, as core attribute of PHC, is affected by perceptions of what is granted or offered to users, and should not be confounded with accessibility, which should be understood as a set of features of mechanisms to ensure access<sup>(13)</sup>. Thus, the main function of accessibility is identifying obstacles in the health system or services and facilitating the search for services by providing the means to overcome those obstacles.

The attribute of access presented low orientation to PHC, showing some weaknesses such as: unit hours of operation; difficulty in getting to health services; need to be away from work to be served; and waiting times longer than 30 minutes for appointments with health professionals. These weaknesses significantly decrease user adherence to the actions developed by the leprosy program, hinder proper care by health teams, and are reflected in decreases in quality of life and indicators inherent to the disease.

Among the factors that have caused these weaknesses, uncontrolled growth of the municipality and the population are believed to have contributed greatly to the problem. Therefore, these factors are considered to be organizational barriers and could have direct impacts on the selection of the first site where care is received and on the continuity of the delivered care<sup>(7)</sup>. Another study showed that lack of transportation means to get to health services is also one of the main causes of non-adherence to leprosy treatment<sup>(12)</sup>.

Regarding the attribute of entry door, the mean score (8.4) showed that PHC in Canaã dos Carajás is highly oriented to actions on leprosy control. Entry door should be understood as the notion of access or entry to care for every

new health problem. Such care should be easily reached to minimize organizational barriers to delivery of services and to ensure the required equity according to the care level and complexity of health conditions<sup>(7)</sup>. Regarding the concept of entry door, it is the moment when subjects (users) identify services as the first option to be sought whenever there are new needs or health conditions<sup>(13)</sup>.

In the evaluation of the attribute of continuous care, or longitudinality of care, the present study showed high scores, according to the perceptions of the nurses interviewed, with mean of scores of 8.1 ( $\pm 1.6$ ). This means that in the municipality of the study, PHC is highly oriented to actions on leprosy control, according to the items evaluated in this attribute. This evidences good relational aspects between users and health teams.

Continuous care occurs when there is a source of care during a certain period or over time, through a cooperative relationship of mutual exchange that reflects interpersonal trust between services and users<sup>(8)</sup>. A survey in the city of Curitiba (Paraná) evaluated the presence and extension of PHC attributes in the health units of the municipality. It identified the presence of high scores for the attribute of continuous care in the units with PHC. This conclusion supports the results of the present study, and suggests that the professionals in those teams perceive stronger links between users and services, and are more capable of recognizing their elective population<sup>(14)</sup>. This may indicate good organization of both the services and programs in question regarding the aspects evaluated in this attribute, as well as in relation to the institutional development of the care delivered.

In this context, it is worth highlighting that the establishment of longitudinality, or continued care, is inherent to the development of professional practice. However, to effectively establish this attribute in health services, the appropriate of services should be offered, and professionals should be retained in the health units in question<sup>(15)</sup>.

Regarding the attribute of integrality of services available and provided, this evaluation found

means of 9.5 ( $\pm 0.4$ ) and 8.8 ( $\pm 1$ ), respectively. Integrality, as a principle of the Brazilian Unified Health System (*Sistema Único de Saúde* - SUS), requires the system to link users to health units, based on their needs. This ensures that offering the required services and resources is inherent to its approach, and that such services will overcome current health conditions and exceed the limits set by those conditions, and are capable of providing the appropriate care to meet future health demands by users<sup>(7)</sup>. A study in Minas Gerais found that when assessing PHC attributes, users linked to the Family Health Strategy assigned higher values than users linked to other types of services<sup>(16)</sup>.

The high means assigned to the attributes of integrality of services available and of services delivered differed from the low scores for these attributes in another study carried out in Minas Gerais<sup>(10)</sup>. Therefore, the exercise of integrality reflects the need to change practices in health services through the appraisal and recognition of the singularity of the subjectivity of each user<sup>(16)</sup>.

The attributes of coordination, family orientation and community orientation had satisfactory scores, but with lower means than the others. Coordination allows users to access services in an integral way, at different points in health care networks. It is defined by the interaction between health services and actions, in a reasoned and coordinated way. The nonexistence or unsuitability of this attribute is reflected in lack of care or not responding to users' needs or health conditions. It also has negative impacts on indicators of the quality of the health system and the quality of life of the population served<sup>(13)</sup>.

In Canaã dos Carajás (Pará), the mean for the attribute of coordination was 7.8 ( $\pm 1.9$ ), showing that, in general, health services in the city are highly oriented to the development of actions in the leprosy program. Among the strengths found to this attribute, the appropriate use of the reference and counter-reference system is highlighted.

Family orientation is an attribute that qualifies health care, specifically for leprosy. In

the present study, this attribute presented high scores, according evaluation by nurses, with a mean of 7.8 ( $\pm 2.8$ ). This suggests that health care is focused on families. A similar study found similar results when evaluating this attribute, reinforcing the importance of family participation in the context of health of communities in which services are inserted<sup>(10)</sup>. Therefore, the high performance on these scores can be attributed to the principles incorporated in the construction of PHC in the municipalities assessed, such as territory definition, health inspection and sanitary accountability.

According to the Ministry of Health (MoH), community orientation should describe the provision of health services that are sufficient to meet community needs and are reflected in epidemiological data consistent with the planning and evaluation of those services<sup>(8)</sup>. In a general context, we could say that leprosy control actions in PHC in Canaã dos Carajás (Pará) is highly oriented to the community. Nonetheless, from the perspective of health professionals, PHC still has many weaknesses in relation to this attribute, since professional knowledge of this disease and health condition is not always translated into practices that include the community and have an impact on the major existing health conditions. The view of professionals about services is always different from the view of users who need those services<sup>(18)</sup>. Differing views of services function as evaluation thermometers of the characteristics of the attributes in the present study, showing positive or negative aspects and perceptions in the light of who analyzes the services.

Family and community orientation, as PHC attributes, are factors that facilitate the planning and development of actions in health. They allow more effective care and nursing services, and have a direct impact on improvements in health indicators<sup>(19)</sup>.

The attribute of professional orientation was shown to be high for actions on leprosy control in the PHC context of the municipality, with a mean equal to 8.5 ( $\pm 1.6$ ). However, the analysis showed the need for a more responsive program of professional qualification among nurses

working in leprosy control. One alternative would be the adoption of distance qualification mechanisms and consultancy services for municipalities lacking the personnel needed to deliver such training<sup>(10)</sup>.

The conclusions of another study support this idea, reinforcing the importance of fostering continuous training of health professionals dealing with leprosy<sup>(12)</sup>. A large number of professionals are admitted by public contest, so investments in training and capacity-building of health team members is a tool capable of generating good results in the care process, and should be supported and appraised by area managers.

This study has limitations. It was performed with just one professional category, which could lead to biased information. In addition, and the the sample was small, but representative of the selected universe. Therefore, further research could utilize larger population samples, and other professionals working in leprosy care are needed to make statistical comparisons between attributes and categories.

## Conclusion

Despite some important weaknesses, according to nurses' perceptions, the municipality of Canaã dos Carajás (Pará) is highly oriented to perform leprosy control actions in the context of PHC. These services were positively evaluated, as shown by the means for the scores on the core, derivate and overall attributes.

The present study expanded knowledge of the primary care attributes being achieved and those that still face difficulties. It could be a useful tool for supporting managers in structuring disease surveillance strategies oriented toward evidence-based studies, providing effective control of the disease.

Considering that leprosy is a priority condition in Brazilian health policy, and in the face of the need to strengthen the role of primary health care in the control of leprosy, understanding the presence and extension of PHC attributes, as perceived by nurses, can contribute to properly



directing their educational and care actions guiding their professional work of coping with this endemic disease.

### Collaborations:

1. Conception, design, and data analysis and interpretation: Gutemberg Santos de Sousa and Rodrigo Luís Ferreira da Silva;

2. Drafting and critical revision of the article: Gutemberg Santos de Sousa, Rodrigo Luís Ferreira da Silva and Marília Brasil Xavier;

3. Final approval of the version to be published: Gutemberg Santos de Sousa, Rodrigo Luís Ferreira da Silva and Marília Brasil Xavier.

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Received: July 18, 2016

Approved: February 9, 2017