

Virtual network: to analyze the knowledge about leprosy of MORHAN volunteers

Rede virtual: ferramenta para analisar o conhecimento dos voluntários do MORHAN sobre hanseníase

Red virtual: herramienta para analizar el conocimiento de los voluntarios del MORHAN sobre lepra

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The objective of this study was to investigate knowledge about leprosy of volunteers participating in the Virtual Mobilization Network (REMOB) for the Reintegration Movement of People Affected by Leprosy (MORHAN) in relation to general aspects, diagnosis, transmission and treatment of the disease. REMOB volunteers were asked to answer an online questionnaire containing 35 questions about leprosy and specific questions about volunteering. The study included 105 volunteers in 20 Brazilian states with a mean age of 38.9 (sd=14.14) years. A total of 72.4% were healthcare professionals, 73.3% had college diplomas or were postgraduates, and for 63.8% volunteering did not begin because they knew someone with the disease. Respondents correctly answered, on average, 84.2% of the questions about diagnosis, 83.2% about general aspects, 71.6% about transmission and 61.9% on treatment. The knowledge of leprosy was better in respect to the *diagnosis* and worse in relation to *treatment* and should be the target for investment in ongoing training.

Descriptors: Leprosy; Health education; Volunteers; Social networking; Knowledge

O objetivo do estudo foi revelar o conhecimento sobre hanseníase dos voluntários participantes da Rede Virtual de Mobilização (REMOB) do Movimento de Reintegração das pessoas Atingidas pela Hanseníase (MORHAN) em relação a aspectos gerais, diagnóstico, transmissão e tratamento. Os voluntários da REMOB foram convidados a responder um formulário *online* contendo 35 afirmativas sobre hanseníase e perguntas específicas sobre o voluntariado. Participaram do estudo 105 voluntários, representando 20 estados brasileiros, a média de idade foi de 38,9 (dp=14,14), 72,4% eram atuantes na área da saúde, 73,3% tinham nível superior e/ou pós-graduação, para 63,8% as atividades voluntárias não iniciaram por conhecer alguém com a doença. O percentual médio de acertos sobre diagnóstico foi de 84,2%, aspectos gerais 83,2%, transmissão 71,6% e tratamento 61,9%. O conhecimento sobre hanseníase foi maior nas questões referentes ao *diagnóstico* e menor sobre *tratamento* sendo imprescindível investimento em capacitação permanente.

Descritores: Hanseníase; Educação em saúde; Voluntários; Rede social; Conhecimento.

El objetivo de este estudio es revelar el conocimiento sobre lepra de los voluntarios de la Rede Virtual de Movilización (REMOB) del Movimiento de Reintegración de Personas Afectadas por la Lepra (MORHAN) en: aspectos generales, diagnóstico, transmisión y tratamiento. Los voluntarios de REMOB respondieron un formulario *online* conteniendo 35 afirmaciones sobre Lepra y preguntas específicas acerca del voluntariado. Participaron en el estudio 105 voluntarios, representando 20 estados brasileños, la edad promedio fue 38,9 (dp=14,14); 72,4% estaban activos en área de salud; 73,3% tenían nivel superior y/o posgrado; el 63,8% no iniciaron las actividades voluntarias por conocer a alguien con la enfermedad. El porcentaje promedio de aciertos en diagnóstico fue 84,2%, en aspectos generales 83,2%, en transmisión 71,6% y en tratamiento 61,9%. Se concluyó que el conocimiento sobre lepra fue mayor en cuestiones referentes al *diagnóstico* y menor referente al *tratamiento*, deben ser indispensable para la capacitación permanente.

Descritores: Lepra; Educación en salud; Voluntarios; Red social; Conocimiento.

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INTRODUCTION

Leprosy represents a concern for those affected by it, health professionals, the general public, and for governmental and non-governmental agencies, both thanks to the physical and social implications, and to the amount of people diagnosed annually in the world¹.

The plans to eradicate the disease drawn up by the World Health Organization (WHO) and subsequently by the Ministry of health of Brazil are the most important components to ensure that Hansen's disease control activities are within reach of the entire population, as well as the diagnosis, the treatment with multi-drug therapy, counseling to patients and their families, community education, prevention and rehabilitation of disabilities/inabilities and the adequate referral of potential complications^{2,3}.

Among the mechanisms which are the basis for the activities to control Hansen's disease, *"the development of the capacity and competence of health care professionals through training and updating their services"*², stands out, and as a consequence, it is important to invest in health education, with the objective to inform, prevent or minimize the consequences of medical condition in order to interrupt the epidemiological chain of the disease^{4,5}, education in health is understood as a transformation process that develops the critical consciousness of the people when it comes to their health problems, stimulating the search for collective solutions to solve them⁶.

In Hansen's disease, health education enables the development of educational activities aimed at increasing society's knowledge of the disease, and consequently improving the health of the patient and his family⁷. In a practical approach, health education raises awareness and encourages the individual to participate in community life in a constructive way, preparing one not just for preventing the disease, but to get or maintain a healthier life⁸.

The Reintegration Movement for People Affected by Hansen's disease (MORHAN) is a non-profit organization, created in 1981, and its mission is to ensure that Hansen's disease is understood in society as a normal illness, with treatment and a cure, thus eliminating the prejudice around the disease.

The MORHAN action force is based on volunteer work and aims at eliminating Hansen's disease, seeking to build effective public policies by generating public awareness about the problem, and focusing on ensuring prevention, treatment, diagnosis and rehabilitation to people affected by the disease⁹.

In order to register MORHAN volunteers, strengthen the militancy and expand the number of volunteers, in 2010 was created the Virtual Network of Mobilization, the REMOB, where one can register themselves in MORHAN through the link <http://www.morhan.org.br/participe>, and which facilitated divulging MORHAN's actions on social networks. The fact that not every MORHAN volunteer is a member of the REMOB is due to individual difficulties regarding access and use of technology.

In this context, it is important that REMOB volunteers have basic knowledge about the disease as part of a process of health education, so they can offer a concentrated effort in the three instances of the SUS, in the pursuit of maximum effectiveness of Hansen's disease control actions. Studies that evaluate this knowledge are required given the range of actions volunteers need and can do in a social movement. These volunteers, indeed, are often in touch with people who have or have had Hansen's disease, and sometimes feel unprepared to understand and elucidate the doubts that arise during their contact, and/or during the process of claiming for their rights.

Therefore, the aim of this study was to reveal the knowledge of volunteers participating in the Virtual Network of MORHAN, regarding the following aspects of Hansen's disease: general aspects, diagnosis, treatment and transmission.

METHOD

The population was made up of the volunteers from MORHAN who are registered on the MORHAN mobilization network, REMOB. The REMOB is a virtual network of MORHAN volunteers, where members must be registered *online*, and may or may not participate in other actions by the movement, virtual or not.

The only inclusion criterion was the acceptance of the volunteer registered at REMOB to participate in this study, which was requested in the pre-test itself, after the reading of the Informed Consent Form.

The data collection instrument used in this study is composed of 35 statements and was filled through the link provided¹⁰ to volunteers who should enter their ID number, initials, date of birth, gender, educational level, profession, current occupation (job); area of expertise, city of residence, state, and answer specific questions about their volunteering.

This collection instrument (pre-test) was developed initially by the Education Center for Health Epidemiological Surveillance Center in 2001, amended in December 2005 by Nardi SMT, Marciano LHSC Meadow RBR and Quaggio CMP¹¹ and in October 2011, in order to prepare it for an online version, it was modified again by Nardi SMT; Pedro HSP; Sousa ACC; Loureiro LA; Paschoal VDA.

The changes made in the pretest by researchers in 2005¹¹ and later in 2011 were based on the "*Album Serial*"¹² of Hansen's disease, funded by the *São Paulo Foundation Against Hansen's disease* that was created in order to facilitate educational or group activities on the disease. The tool is a great ally in health education directed to Hansen's disease, because it contains the basic and minimal concepts of definition, transmission, signs, symptoms, clinical forms, drug treatment, self-care, rights and duties of the patient.

After the pre-test was applied, participants were invited and directed through a link to the home page of MORHAN, where they could read and the album¹², that brings in

its content all the answers to the questions elaborated in the pre-test.

A pilot project was conducted with 30 volunteers at the REMOB (MORHAN), which were not in the population of the study. They answered the form available on the website, for the purpose of checking the necessity of possible adjustments to the methodology and the logistics in the project to be applied with the other volunteers.

Data collection was conducted from June 2012 to March 2013, in which volunteers were asked to answer the online questionnaire available at: <http://www.formfacil.com/susitn/preteste>¹⁰.

After participants submitted the answered pre-test, a worksheet in Excel® was generated for further analysis of the variables.

We used a statistical program to survey the frequency, the medium and cross data, considering the variables concerning the characterization of the participants and their responses to the pre-test. Only the results which presented 5% significance and 80% power were considered.

Questions contained in the form were subdivided into four categories: General aspects (10 questions), diagnosis (10 assertions), treatment (08 assertions) and transmission (07 questions). The scores were categorized according to knowledge levels, as proposed by Marciano et al¹¹, considering above average (50%) and lower than average ($\leq 50\%$), and correct and incorrect responses were logged in the pre-test.

In order to present the results, the words "correct statement" and "incorrect statement" were inserted after the sentences proposed in the pre-test.

The project was approved by the Research Ethics Committee of the Instituto Lauro de Souza Lima (CEP/ILSL) protocol 231/11 on 28 February 2012.

RESULTS

From a total of 127 participants registered in REMOB/MORHAN during the period of this study, 105 (82.7%) volunteers responded to

the online pre-test, which represented 20 states of Brazil. Minas Gerais (24.8%) and São Paulo (20.0%) were the best represented ones.

The participants represented various segments, especially health (n=76/72.4%), followed by education (n=9/8.6%).

Several professions were represented. Among those, the most common were: student (26.7%), nurses (10.5%), social worker (4.8%), pharmaceutical biochemist (4.8%), professor (4.7%), occupational therapist (3.8%), psychologist (2.9%) and other (41.8%).

Regarding education of the participants, 3.8% (4) had primary education, 22.9% (24) had a high school education, 39% (41) completed higher education, 34.3% (36) post-graduation. The average age of volunteers was 38.9 (sd=14.14) with a variation of 17 to 71 years.

Among the volunteers, 53.3% (56) replied that he knew a friend or family member who had or had had Hansen's disease, but only 36.2% (38) had begun voluntary activities because they had some relative or

friend with the disease, and 80% (84) had some knowledge about the disease before they started volunteering.

It should be noted that 37.2% of the volunteers were not aware that the only source of transmission of the disease known today is the man (Table 1).

According to table 2, the knowledge that seems the most evident to the volunteers is that of the numb skin patch that doesn't really disturb. Other features of these patches that can suggest the diagnosis seem to be less known, such as autonomic fiber lesions, which causes the falling of hair, lack of sweating and dryness of the skin, causing the dust does not adhere to the skin.

The ways in which the transmission of each form of the disease happens, and whether pregnant or lactating women can transmit the disease, are facts unknown by most volunteers, as shown in Table 3. Many questions about the treatment generate doubts, especially regarding the side effects of medicines and the form of drug administration (table 4).

Table 1. Frequency distribution of correct, incorrect and "don't know" answers regarding Hansen's disease general aspects. São Paulo, March 2013.

ASSERTIONS	CORRECT		INCORRECT		DON'T KNOW	
	%	N	%	n	%	n
- There is another source of Hansen's disease infection beyond man. "Incorrect statement"	62.9	66	14.3	15	22.9	24
- Hansen's disease patients should avoid physical contact (sexual intercourse, kisses, hugs, others) and collective environments (public bathrooms, buses, pools) and keep their personal items separated. "Incorrect statement"	81.0	85	15.2	16	3.8	4
- Among people who become ill, some develop a few skin patches with few bacilli and others have more severe forms with many bacilli. "Correct statement"	79.1	83	5.7	6	15.3	16
-Not all forms of Hansen's disease are contagious. As soon as the treatment starts, the infectious varieties stop being contagious. "correct statement"	81.0	85	10.5	11	8.6	9
-Hansen's disease is a disease that attacks the skin and nerves and can cause deformities in the eyes, nose, hands and feet. "correct statement"	90.5	95	4.8	5	4.8	5
-A cure of Hansen's disease has not been discovered. "incorrect statement"	85.7	90	10.5	11	3.8	4
-Hansen's disease is hereditary. " incorrect statement "	89.5	94	4.8	5	5.7	6
-The patient of Hansen's disease should be treated differently in the public health network. " incorrect statement "	83.8	88	8.6	9	7.6	8
-The patient of Hansen's disease must continue their normal life with their family, friends and work. "correct statement"	97.1	102	-	-	2.9	3
-Only the doctor may suspect Hansen's disease and perform the necessary referrals. "incorrect statement"	80.0	84	18.1	19	1.9	2

Table 2. Frequency distribution of correct, incorrect and "don't know" answers regarding Hansen's disease diagnosis. São Paulo, March 2013.

ASSERTIONS	CORRECT		INCORRECT		DON'T KNOW	
	%	n	%	n	%	n
-Patches on the skin that don't hurt, and don't disturb. " <i>correct statement</i> "	93.3	98	5.7	6	1.0	1
-Itching patches. " <i>incorrect affirmative</i> "	75.2	79	13.3	14	11.4	12
- Patches with hair loss. " <i>correct statement</i> "	70.5	74	10.5	11	19.1	20
-Areas/spots with numbness or tingling. " <i>correct statement</i> "	91.4	96	4.8	5	3.8	4
- Spots that to which dust adheres. " <i>incorrect statement</i> "	55.2	58	5.7	6	39.1	41
-Burn or cut themselves without feeling. " <i>correct statement</i> "	93.3	98	1.9	2	4.8	5
- Whitish or reddish patches. " <i>Correct statement</i> "	91.4	96	5.7	6	2.9	3
-On Hansen's disease the lesion of peripheral nerves can cause pain, weakness, decreased sensitivity. " <i>correct statement</i> "	95.2	100	1.9	2	2.9	3
-Before a suspected case of Hansen's disease, the doctor should examine the skin, nerves, sensibility and request laboratory tests, if necessary. " <i>correct statement</i> "	90.5	95	4.8	5	4.8	5
- Bacilloscopy (collection of lymph) and biopsy (removal of a small piece of skin spot) are laboratory tests for the presence of bacilli in the body. " <i>Correct statement</i> "	85.7	90	2.9	3	11.4	12

Table 3. Frequency distribution of correct, incorrect and "don't know" answers regarding Hansen's disease transmission. São Paulo, March 2013.

ASSERTIONS	CORRECT		INCORRECT		DON'T KNOW	
	%	n	%	n	%	n
-The bacilli of a patient without treatment can be transmitted to healthy people, primarily through direct and frequent contact. " <i>correct statement</i> "	86.7	91	8.6	9	4.8	5
-Hansen's disease is transmitted primarily through the respiratory system. " <i>correct statement</i> "	85.7	90	10.5	11	1.7	4
- Most people who come in contact with the bacillus of Hansen get sick. " <i>incorrect statement</i> "	78.1	82	8.6	9	13.3	14
- People who lived around patients who have or had Hansen's disease need to be examined and monitored by the health team, which is one of the main factors that contribute to "break" the chain of transmission. " <i>correct statement</i> "	85.7	90	4.8	5	9.5	10
- Women can transmit Hansen's disease to their children during pregnancy or while breastfeeding. " <i>incorrect statement</i> "	62.9	66	11.4	12	25.7	27
-The indeterminate form of the disease is not contagious, and its healing is quicker and easier; if left untreated, it can develop into the more serious forms. " <i>correct statement</i> "	69.5	73	9.5	10	21.0	22
- The tuberculoid form is infectious, that is, is transmissible from one person to another. " <i>Incorrect statement</i> "	38.1	40	37.1	39	24.8	26
- The dimorphous and borderline varieties, when not treated, are contagious. " <i>correct statement</i> "	65.7	69	5.7	6	28.6	30

Table 4. Frequency distribution of correct, incorrect and "don't know" answers regarding Hansen's disease treatment. São Paulo, March 2013.

ASSERTIONS	CORRECT		INCORRECT		DON'T KNOW	
	%	n	%	n	%	n
-The regular treatment of Hansen's disease lasts 6 months for patients with indeterminate and tuberculoid (paucibacillary) forms, and 12 months for patients of dimorphous and virchoviana (multibacillary) forms. "correct statement"	77.1	81	1.0	1	21.9	23
-The treatment for the pauci and multibacillary forms consists of only one (01) supervised monthly dose. "correct statement"	21.9	23	44.8	47	33.3	35
- Treatment can be stopped by the patient at any moment, since the active (living) bacilli do not multiply again. "incorrect statement"	88.6	93	2.9	3	8.6	9
- The treatment can result in: -Changes in skin color especially in contact with the sun. "correct statement"	64.8	68	5.7	6	29.5	31
-Red urine on day of the supervised monthly dose. "correct statement"	60.0	63	1.9	2	38.1	40
-Decreased effectiveness of birth control medication. "correct statement"	26.7	28	24.7	26	48.6	51
-Treatment should include prevention against disabilities to prevent deformity. "correct statement"	94.3	99	-	-	5.7	6

Table 5. Average percentage of correct answers in the pre-test, considering general aspects, diagnosis, and treatment. São Paulo, March 2013.

	PRE-TEST			
	Average *	Standard Deviation	Minimum	Maximum
General Aspects	83.1	17.1	62.9	97.1
Diagnosis	84.2	20.0	55.2	95.2
Transmission	71.6	24.3	38.1	86.7
Treatment	61.9	36.2	21.9	94.3

* Percentage

DISCUSSION

In order to exceed one's information limit, and acquire knowledge and information, one needs to reason and be aware of the world as a whole, considering their experience and prior learning¹³.

REMOB volunteers are people who voluntarily enrolled in the MORHAN website and represent a diverse professional world, bringing with them a vast background.

The States of Minas Gerais and São Paulo were better represented in the population of this study, thanks the intensive work carried out in some cities of these States by MORHAN volunteers in search of volunteers in the REMOB.

Hansen's disease is a disease which influences physical, psychological and social aspects of one's life, and it is missing more extended research in certain fields.

Information about the illness is varied, scattered, and sometimes highly targeted, and as such difficult for those who do not work in the area of health. In that regard, this study sought to understand whether people who offer to fight for a cause know the dimension of the subject they are getting involved into.

The research protocol investigated the participants' knowledge, and translated scientific statements into more simple and familiar language, more similar to that of day-to-day life. They were encouraged to form an ample and critical view of the subject at hand, so as to actively exercise citizenship and their own strategies within the movement¹⁴.

In the study we chose to use a digital screen for the research, given that most participants became volunteers to a process which was entirely online. For that reason, 82.7% of the REMOB volunteers participated

in the research. With the digital screen, generations of users are able to act more can be more collaborative and auctorial regarding the context to which they were exposed¹⁵.

Almost half of the survey participants knew someone, a friend or family member, who had been diagnosed with the disease and began volunteering for that reason. It is known that experiencing the disease through the suffering of someone close raises awareness and encourages one to take action¹⁶.

The results demonstrate an above-average knowledge (> 50) in all categories.

In the theme *General Aspects*, though the average of correct answers might have been high (83.2%), some questions seemed to cause doubt in the participants, as the one about whether there are other sources of infection apart from man. It has not yet been proven that the disease is a zoonosis¹⁷⁻¹⁹, even though the bacterium has the ability to infect and multiply in some animals, these being considered natural deposits²⁰.

It is also interesting to note how many answered incorrectly to the assertive which indicated that any public health professional can suspect the disease and refer the patient to the adequate channels.

According to the Hansen's disease Service Protocol (Brazil 2007), all professionals working on basic health network must always be attentive to a Hansen's disease diagnostic suspicion and trained to identify signs and symptoms in people attended to in the health unit, whether they come from spontaneous demand, or from specific groups. This information should be known by the volunteers and taught to users who access the REMOB, as well as the concept that Hansen's disease is a disease that is curable, knowledge which 14.3% of volunteers lacked.

Questions regarding physical contact, the use of collective environments and the sharing of personal objects by the patient with Hansen's disease still cause doubts, since 19.0% answered incorrectly or did not know the answer to them. The concept of social segregation, built-in our relationship with the

disease since Biblical times, is part of the collective subject discourse and is widely discussed in qualitative studies that show what these patients say, the pain they feel, and exclusion they experience^{21,22}.

As for the *Diagnostic* questions, the volunteers knew how to answer questions regarding the identification of the disease. However, the percentage "don't know" answers was higher for questions regarding three signs and symptoms of Hansen's disease: "patches with hair loss," "patches to which dust adheres" and "itchy patches". This information is disclosed, by manuals, posters, booklets, reports of the Ministry of health and State and municipal bodies, but they have limited issues, and are spread across the network of health professionals and users, and may sometimes not be made available to the general population^{23,24}. One has yet to take into account that this information is specific to the field of health, and many people do not know the particular characteristics of the disease.

The volunteers went well (85.7%) in their attempts to identify exams conducted in laboratory to check whether or not there were bacilli.

Regarding the questions on the *Transmission* of Hansen's disease, the questions with the greatest number of wrong answer were the ones regarding the transmission of the disease by pregnant women, the one about whether anyone who gets in contact with the bacillus get sick, and about how contagious are the tuberculoid, dimorph, and borderline forms.

Despite being an ancient disease, the transmission of Hansen's disease is still not perfectly understood, and is still being discussed. Researchers have been investigating the transmission²⁵⁻²⁷ and suggested other possibilities than the currently accepted one, which suggests that the disease can only be transmitted by multibacillary untreated patients, as proven by Paul Fine²⁸.

Regarding the *Treatment* of Hansen's disease, volunteers had lower percentage of right answers than they did in the other

categories. The questions with the higher number of wrong answers were the ones regarding the dosage for pauci and multibacillary varieties of the disease; if the treatment diminishes the efficacy of contraceptive medication, regarding the red urine on the day of the monthly supervised dose, and regarding the change in the skin's color, especially under direct sunlight. It is known that the treatment of a patient with Hansen's disease is paramount for their cure, and to stop them from being another link in the transmission chain of the disease; therefore, it is a strategic move if we are to control this disease as a public health problem^{29,30}.

The treatment for a person with Hansen's disease, indicated by the Ministry of health, is a multi-drug therapy standardized by the World Health Organization, and it must be offered in basic health units^{29,30}. Even though the questions regarding treatment are highly specialized, they should also be known by MORHAN volunteers, in order for them to teach them and answer the questions of those in their action networks.

The results of this study have shown – that general and specific aspects of Hansen's disease are still not widely known, and in order to spread this knowledge, it is necessary to promote it through resources and media like television, schools, posters in highly populated areas, speeches, continuous education, and capacitation for health professionals and workers in family health, in order for the disease to be identified in its first moments

After analyzing the results presented here, the group of researchers proposed an action plan consisting in the availability of educational materials, especially the *Album Serial of the São Paulo Foundation Against Hansen's disease*¹², at the official website of the MORHAN, allowing all the volunteers of REMOB to know in a didactic and image oriented way the basic concepts of Hansen's disease, as the research institute this study uses recommended. This tool, it is suggested, should be made permanently available in the

website, in order for the volunteers to use it as their guideline when necessary.

In short, it was found that the volunteers' knowledge about the pathology was satisfactory. It is important to stimulate the growth of a relationship formed by partnership, complicity, and transparency among the people willing to volunteer at the REMOB. Also, permanent education and training is important among the volunteers, and investing in it paramount.

This study proposes to promote discussions regarding the various facets of Hansen's disease in order to contribute to the education of MORHAN volunteers, who work especially in order to bring about policies to control the endemic and for the rights of the people who have been diagnosed with this illness. According to our results, actions which stimulate interdisciplinary and encourage the contribution between non-technical partners from different fields of knowledge can be concluded in order to guarantee the rights and improve the quality of the attention the victims of the disease and their families receive.

The limitation of this study was that, at the time the test was applied, not all volunteers from MORHAN were registered in the REMOB, which meant that the research could not count with the participation of all the volunteers of this complex network, which continues its fight for the eradication of Hansen's disease in this country, and abroad.

CONCLUSION

Knowledge about Hansen's disease was higher regarding the *Diagnosis* of the disease and lower regarding its *Treatment*.

The statements that had a higher frequency of incorrect or "don't know" answers, though they may be quite specialized, should be the targets of investment in permanent education.

One of the strategies suggested in order for the MORHAN to achieve a best performance of its volunteers is to make educational materials available through its website.

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CONTRIBUTIONS

Susilene Maria Tonelli Nardi held the coordination, design, planning, analyzing and interpreting the data, writing end of the article. **Heloisa da Silveira Paro Pedro** participated in the study design, analysis and interpretation of the data, writing end of the article. **Luisa Arantes Loureiro** acted on study design, elaboration of the collection instrument, data collection and editorial end of the article. **Lucia Helena Soares Camargo Marciano** developed the design of study, implementation planning, review and article writing. **Artur Custódio Correa de Sousa** participated in the conception and design of the study, preparation of the collection instrument, data collection and editorial of the article. **Vânia Del'Arco Paschoal** acted in the drawing and the study design, implementation planning, review and article writing.

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