

# Quality of life, physical disability, and the human figure drawing assessment of patients with neuropathies in leprosy

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## ABSTRACT

In Leprosy, the presence of dermatoneurological symptoms with potential evolution to physical disabilities may influence the quality of life (QoL) and the patient's body image. **Objective:** To evaluate possible associations between the QoL, degree of disability (DoD) and human figure drawing (HFD) in individuals with leprosy neuropathy. **Method:** This is a descriptive study with a quanti-qualitative approach. Four evaluation instruments were used: a sociodemographic questionnaire, quality of life in neurological disorder questionnaire (Neuro-QoL), HFD and DoD evaluation form. Patients with DoD grades 1 or 2 of the feet and age equal to or greater than 18 were included in this study. **Results:** One hundred individuals were evaluated. Individuals with DoD grade 2 tended to omit the nose ( $p=0.050$ ) and the HFD was small ( $p=0.047$ ). An association was identified between the HFD and the QoL with dominance of diffuse sensory-motor symptoms ( $p=0.035$ ) suggesting that omission of the feet in the HFD may represent a loss of QoL. **Conclusion:** Individuals with leprosy neuropathy have a good to moderate QoL but the omission of body segments may indicate conflicts and feelings of uncertainty. There is evidence of loss of autonomy when the subject omits or cuts off the feet in the HFD.

**Keywords:** Disabled Persons, Leprosy, Body Image, Rehabilitation, Quality of Life

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## INTRODUCTION

Leprosy is a chronic infectious and contagious disease caused by *Mycobacterium leprae*.<sup>1,2</sup> The transmission of the disease occurs by the upper respiratory tract, by direct contact with the untreated patient who is a vector of the multibacillary form. The World Health Organization (WHO) recommends the classifications paucibacillary (PB), in which affected individuals have few bacilli, and multibacillary (MB), with a higher bacillary load.<sup>3</sup>

The treatment is conducted by administering polychemotherapy (PCT) in a six-month strategy for paucibacillary patients and 12 months for multibacillary patients.<sup>4</sup> From the first dose of PCT, there is a reduction in bacillary load, disrupting the transmission potential and leading to the cure of the disease.

When this disease is untreated, in addition to dermatological problems (such as infiltrations, macules, plaques, nodules and tubercle) and hazards on the skin fibers what causes sensitivity alterations, leprosy may evolve to truncal neuropathy, causing physical impairment (claw hand, claw toes, lagophthalmos, nasal pyramid collapse, among others), the main characteristic of the disease.<sup>5</sup>

All problems caused by leprosy may lead to discrimination, prejudice and stigma, within the family, professional, social or academic contexts. According to Baialardi,<sup>6</sup> the feelings related to this illness, such as shame and rejection, are internalized in the patient's psyche. In the Eidt study, feelings of sadness, nonconformity, uselessness, anxiety, despair and guilt in patients with leprosy were evidenced.<sup>7</sup> We can infer that the intensity with which these feelings are experienced by the patient depends on his/her confrontation with the problem, which can compromise body image and quality of life (QoL).

WHO defines QoL as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns."<sup>8</sup> Although this is a classic definition, other authors are concerned with more comprehensive aspects, by integrating psychological, social, environmental and independence aspects into the concept of quality of life.<sup>9</sup>

The entanglement of the face, arms and legs may interfere with the QoL of the patient, and the main determinants for the worsening of QoL are related to late diagnosis, to the multibacillary forms, to the reactions, to the Degree of Disability 2 (DoD 2) in diagnosis, and to prejudice towards the disease,<sup>10,11</sup> and

it may also jeopardize the activities of daily living and social relationships.<sup>12</sup>

In addition to the loss of QoL, it is possible that the patient's body image is compromised, once there be anesthetic areas of hands and feet. According to Schilder, body image is understood as the way the body presents itself to individuals and how this body is experienced psychologically.<sup>13</sup> As a psychological phenomenon, the body image stands out in the attitudes and feelings about the body itself.

According to the study by Batista et al.,<sup>14</sup> the disabilities resulting from leprosy affect the patients' body image and are also responsible for the breakthrough of social prejudices and exclusions. In women with body changes caused by leprosy, Palmeira & Ferreira observed that the vast majority of respondents (96%) during the study reported that the concept of perfect body consists of a skin without imperfections, and a relationship between aesthetics and functionality was established. For these women, a sick body, besides being ugly, does not perform its functions properly.<sup>15</sup>

In leprosy, in addition to physical impairment, interpersonal relationships may also be compromised<sup>12,16</sup> since the patients often isolate themselves from society, becoming unable to work, or even to belong to a family or a group.

Therefore, physical impairments (DoD 1 or 2) due to leprosy, can lead to physical, and psychosocial impairments and compromise not only QoL in general, but also body image.

## OBJECTIVES

The objectives of this study are to evaluate the Human Figure Drawing, the degree of disability and the quality of life of people with physical disabilities as a result of neuropathy in leprosy, as well as to evaluate possible associations between the sociodemographic variables

## METHODS

This is a descriptive quanti-qualitative research that was conducted at the Instituto Lauro de Souza Lima, Bauru, São Paulo, Brazil.

Patients with leprosy peripheral neuropathy, with 18 years of age or older, who were on treatment or on high medication (polychemotherapy), regardless the gender or clinical condition.

Given that the Neuro-QoL instrument was developed only for patients with foot neuropathy, the eligibility inclusion of the

patient was the presence of DoD 1 2 in their feet. Patients who refused or failed to draw the human figure due to visual/motor difficulties, including amputation of the hands, were excluded.

### 1. Degree of Disability

The Degree of Incapacity (DoD – WHO) is a measure that indicates loss of protective sensitivity and/or visible deficiencies as a result of neural injury and/or blindness. This degree is obtained through inspection, examination of sensitivity, of muscle strength, and visual acuity in eyes, hands feet. The classification of the DoD is as follows:

DoD 0: when the muscular strength of the eyelids, hands and feet is preserved as well as the sensitivity of the cornea, palmar and plantar regions;

DoD 1 (physical impairment): when there is decreased muscle strength without visible deficiencies of the eyelids, hands and feet and/or decreased or lost of corneal sensitivity, loss of sensitivity of the palmar and/or plantar regions;

DoD 2 (physical and visual impairment): when there are visible physical deficiencies such as lagophthalmos and/or ectropion, entropion, trichiasis, central corneal opacity, iridocyclitis, visual acuity less than 0.1 or inability to counting fingers at six meters, claw hand, bone resorption, muscular atrophy, "fallen hand or foot", contracture and wounds.<sup>5</sup> We emphasize that the assessment of the DoD was performed by an occupational therapist. Although the inclusion criterion was grade 1 or 2 in feet and hands, the DoD of the eyes was also evaluated to identify the highest degree of disability of the patient.

### 2. Socioeconomic and clinical questionnaire

This instrument was designed by the authors and was composed of data collection regarding personal identification, such as: sex, age, schooling, current occupation, marital status and number of residents of the same residence, as well as the clinical manifestation of the disease and the current treatment status.

### 3. The Human Figure Drawing (HFD)

The HFD was evaluated from the system proposed by John N. Buck,<sup>17</sup> and it is part of the projective technique House, Tree,

Person (HTP). This instrument consists of the evaluation of three drawings: a house, a tree, and a person. Once it is a graphic projective technique, it is a mean to investigate possible areas of conflict and specific aspects of the individuality and the environment of an individual,<sup>17</sup> and it is applied exclusively by psychologists.

In this study, the HFD was individually applied, as it promotes "direct expression of body image". When analyzing the drawing, the artistic skills of the participants were not considered.<sup>17</sup> Patients were asked to draw a person with the whole upright body on an A4 sheet. The activity time was free, and the available materials were a #2 black pencil and an eraser.

#### 4. Neuro-QoL - Neuropathy – Specific Quality of Life Questionnaire (Brazilian Version)

Neuro-QoL is a scale that allows assessing the frequency and intensity of symptoms or foot problems arising from neurological diseases that affect health-related quality of life (HRQoL) concerning the previous four weeks. It was developed by Vileikyte et al.<sup>18</sup> and adapted to the Portuguese language of Brazil. This version is considered reliable and valid.<sup>19</sup>

This evaluation instrument consists of 35 questions regarding six specific domains of health-related quality of life (QoL): Pain (seven items), Loss/Reduction of Sensitivity (three items), Sensitive Diffuse Symptoms (three items), Limitations (three items), Social Relations Disorder (three items), and Emotional Distress (three items). The degree of impact on QoL is obtained by multiplying the value of each item (with a variation of one to five) and the value attributed to the corresponding annoyance (variation of one to three). This multiplication gives the weighted scores of each item in the respective domains. The total values should be calculated by the average of the weighted items, which may vary from 1 to 15. The higher the value, the worse the QoL.<sup>19</sup>

In this instrument, there are six items that assess QoL in each of the six domains (items A-F), with scores ranging from one to five. In order to obtain the final result (general impact of the domains in the QoL), the average of the items must be calculated.<sup>18</sup> When the response is "extremely", score 5 is considered, i.e. the worse score, and when the response is "not at all", it is considered 1, that is, better QoL.

Regarding the final questions (28 and 29), the number 28 evaluates the impact of neuropathy

on the general QoL,<sup>19</sup> also with a score ranging from one (none) to five (very much). In question 29, one means "poor QoL" and five "excellent QoL".<sup>18</sup> The data analysis was descriptive for the characterization of the patients.

The QoL domains of the Neuro-QoL were evaluated according to their means, and the degree of association with other variables was verified with the non-parametric Kruskal-Wallis test, and statistical significance was considered for p-values  $\leq 0.05$ .

The data obtained by the HFD were analyzed qualitatively through a list of interpretive concepts proposed by Buck.<sup>17</sup> In this study, an evaluation protocol composed of analytical categories was considered for the interpretation of HFD, including general observations, proportion, perspective, line quality, and essential, non-essential, and irrelevant details.<sup>17</sup>

Descriptive statistical analysis with frequency distribution was used to describe the sociodemographic variables. Pearson's or Fisher's Chi-square test was used to verify the association between the variables contained in the Neuro-QoL, HFD and DoD protocols. Significant results were those with a value of  $p \leq 0.05$ .

This study was conducted after receiving the approval of the Scientific Board and the Ethics Review Board of the Instituto Lauro de Souza Lima, under approval number 803.655. This study was carried out under the Brazilian National Council of Research Ethics (CONEP), resolution 466/12 of December 12th, 2012 and Resolution 510/16 of April 07th, 2016.

## RESULTS

We evaluated 100 patients aging from 25 to 79 years, with a mean of 51.8 (SD 11.69). There was a predominance of male participants (66%), married (47%), incomplete 1st grade (62%), licensed workers due to health issues (39%), retired (28%) and married patients with children (41%). Regarding the clinical data, the majority of the patients (97%) were diagnosed with the multibacillary clinical form, 79% of them were already undergoing polychemotherapy and 66% of the patients had DoD 2.

Regarding the six domains of QoL (Table 2), we observed that the greatest impairment was the Loss/Reduction of Sensitivity (mean of 9.6) and the domain of Social Relations Disorders was the one that reflected lesser impairment (average of 5.4).

In addition to the six domains, there is a question that assesses QoL in each of

the six domains (items A, B, C, D, E and F), with both the mean and the median of 2.7, what shows moderate QoL. The question 28 (General Satisfaction) approached how much the problems with the feet diminished their QoL. Both the median and mean were 3, i.e. moderate QoL. The question about the General Classification of QoL (question 29) consisted of evaluating the entire patient's perception. The median was 3 and the mean was 2.7, classified as the best QoL.

The table 3 shows the frequency of the items found in the Human Figure Drawing (HFD), based on the graphic production. Of the total of 100 patients, 21 omitted or cut their feet. Of these, 11 (52%) presented DoD 2, including trophic and/or traumatic lesions, claws, resorption and "fallen foot".

Small drawings, drawings to the left, and fragmented lines may indicate apathy, impulsivity, feelings of insecurity, discontentment, and organicity. The head drawn in large proportions, the nose in emphasis and the omission of the mouth connote regression and greatness, sexual preoccupations and depression. Missed pupils suggest poor contact with reality. Thin arms, legs apart, and emphasized neck imply dependence, aggression, and need for control. Pointed hands incite hostility. Drawings with too much or too little clothing connote narcissism and sexual maladjustment. Omitted or cut off Feet suggest feelings of helplessness and loss of autonomy.<sup>17</sup>

Regarding how the items were located in the drawing (50% left and 44% central), Mouth (10% omitted and 7% emphasis) and Nose (21% emphasis and 18% omitted), the frequencies of the predominant characteristics were closer to the others. In interpreting the results, this proximity must be considered.

According to the normal characteristics proposed by Buck,<sup>17</sup> it was possible to observe that 98% of the drawings were symmetrical, 4% with few erasures, 14% and 66%, respectively, had a pupil and nose without nostrils, 7% had clothes and a belt and 24% had feet and ears. The sum of the items presented in Table 3 may not correspond to 100%, since some characteristics found in the graphical productions of the participants are not included in the categories indicated in Buck's protocol of interpretation.<sup>17</sup>

In the association between QoL (Neuro-QoL) and DoD, by the Kruskal-Wallis test, the only domain that was statistically significant was that of Pain, according to Table 4.

Fisher's test showed that, in the association between HFD and DoD, the

**Table 1.** Sociodemographic and clinical data distribution

Sociodemographic and clinical data (N=100)		n	%
Sex	Male	66	66
	Female	34	34
Educational Background	Illiterate	4	4
	Incomplete middle school	62	62
	Complete middle school	12	12
	Incomplete high school	4	4
	Complete high school	14	14
	Incomplete college	1	1
	Complete college	3	3
Occupation	Employed	11	11
	Unemployed	8	8
	Licensed	39	39
	Retired	28	28
	Housewife	6	6
	Liberal professional	8	8
Marital status	Single	15	15
	Married	47	47
	Stable union	19	19
	Divorced	11	11
	Widow	8	8
Household	Living alone	12	12
	Living with a partner	24	24
	Living with a partner and kids	41	41
	Living with parents	7	7
	Living with kids	13	13
	Others	3	3
Clinical Manifestation	Multibacillary	97	97
	Paucibacillary	3	3
Treatment	Ongoing	21	21
	Discharged	79	79
Maximum DoD	1	34	34
	2	66	66

**Table 2.** Neuro-QoL domains distributions of the results

Domains	Interval for the mean score (1 – 15)	Median	Mode	Mean
Pain	1 – 13.3	5.6	1	5.9
Sensitivity loss/reduction	1 – 15	10.2	15	9.6
Sensitive-motor diffuse symptoms	1 – 15	8.3	15	8
ADLs limitations	1 – 15	7	12	7.3
Social Relations Disorder	1 – 15	5.1	3	5.4
Emotional distress	1 – 15	5.6	1	6.8

items Size of the drawing ( $p = 0.047$ ) and nose ( $p = 0.050$ ) were statistically significant, indicating that patients with visible physical disabilities (DoD 2) tend to omit the nose and make the drawings of the human image in small size.

There was also a significant association between the feet design (HFD) and the diffuse sensory-motor symptoms domain (SMSD/ QoL) ( $p = 0.035$ ), indicating that patients who omit feet in HFD present a loss of quality of life in this domain.

## DISCUSSION

The sociodemographic and clinical data obtained in this study are in agreement with other studies, with prevalence of male patients,<sup>20,21,22</sup> married,<sup>20,22,23</sup> with low educational level,<sup>20,21,22</sup> mean age above 40 years,<sup>11,23,24</sup> and retired subjects.<sup>25,26</sup> Most of the patients were diagnosed with the multibacillary clinical form,<sup>22,27,28</sup> with completed treatment<sup>23,25</sup> and a predominance of DoD 2.<sup>20</sup>

We emphasize that the mean age over 50 years (51.8) represents a population of younger adults, who are unable to work due to health issues or retirement, given the complications of leprosy. The fact that most patients are male with DoD 2, suggests greater need for a reorganization of the social roles among the members of the family in order to solve the family socioeconomic difficulties.

According to Miranzi, Pereira and Nunes,<sup>27</sup> the predominance of low schooling can be considered an issue of low health education, since it is harder to understand the proper treatment guidelines. Therefore, the individual may not consider the long-term consequences that may arise from the lack of self-care. Patients with loss of sensation, for example, may eventually develop plantar ulcers and bone resorptions if they do not have the basic care. Psychological, social and environmental issues may also interfere with the proper conduct of self-care, such as: duration of treatment, non-acceptance of illness, fear of prejudice, social isolation, often irreversible physical disabilities, and the need to standardize the information clarified by the health professionals, among others.

Knowledge about the disease and adherence to treatment are also indispensable in the prevention of physical disabilities and rehabilitation programs. These factors may compromise QoL in different domains. Some studies have been conducted to evaluate QoL in patients with leprosy. The most frequent instruments were: Whoqol-bref,<sup>26,29,30</sup> SF-36,<sup>11,25,31</sup> and Dermatology Life Quality Index,<sup>16,31</sup> among others. However, no studies on leprosy were found with Neuro-QoL assessment, as this instrument was developed to evaluate the health-related quality of life of patients with neuropathies and diabetes mellitus.<sup>19</sup>

Regarding the domains of Neuro-QoL, the Loss/Reduction of Sensitivity, in this study, became the central issue of the QoL reduction, as it is responsible, in most of the cases, for the difficulty of the patients in the execution of daily life activities. Complications resulting from altered sensitivity may produce

**Table 3.** Frequency of the items found in the Human Figure Drawing (HFD), based on the graphic production of the studied population (100 productions)

Human Figure Drawing	Drawing characteristics	N	%
Drawing size	Big	29	29
	Small	44	44
Drawing placement	To the left	50	50
	To the right	2	2
	Central	44	44
	Superior	3	3
Line quality	Inferior	1	1
	Strong	16	16
	Light	18	18
Head	Fragmented	29	29
	Big	27	27
	Regular	16	16
Eyes	Irregular	6	6
	Small/closed/omitted	13	13
	Omitted pupils	48	48
Ears	Excessive emphasis	12	12
Mouth	Emphasized	7	7
	Omitted	10	10
	Teeth	6	6
Nose	Emphasized	21	21
	Omitted	18	18
Arms	Emphasized	10	10
	Very light	25	25
	Omitted/very small/hidden	16	16
Hands/fingers	Gloves	11	11
	Sharp	34	34
	Petals	22	22
	Omitted	17	17
Legs	Omitted/diminished/cutoff	5	5
	Placed together	7	7
	Placed apart	88	88
Feet	Omitted or cutoff	21	21
Neck	Emphasized	31	31
	Very thin	20	20
	Omitted	15	15
Clothing	Too much or too little clothing	3	3
Emphasized or omitted hair		22	22
Trunk and body evident of omitted		5	5
Breasts		2	2
Square or emphasized shoulders		26	26
Ground line		3	3
Asymmetry		2	2

irreversible disabilities and unintentional mutilations.<sup>5</sup> In the literature, no studies were found that included a domain of Loss/Sensitivity Reduction, within instruments for the evaluation of QoL.

In the study by Sousa et al.<sup>32</sup> when evaluating patients with leprosy using the SF-36, the most affected domains in QoL were Physical Functioning, Pain and Emotional Well Being. Therefore, it is not possible to compare

the obtained results between different domains. According to Xavier<sup>19</sup> any correlation between both instruments will be negative.

In the present study, although most patients had physical deficiencies, QoL was not generally compromised, contrary to the study by Martins et al.<sup>12</sup>, which found that higher DoD is correlated to lower the QoL. We also found that QoL was moderate in relation to the mean of all domains and overall QoL satisfaction, even when foot complications are ongoing. The study by Prado et al.<sup>25</sup> suggests that, in leprosy, neural impairment may occur slowly, and it is possible that the patient adapts to the limitations and incorporates new ways to perform their daily activities independently.

Not only the adaptation to the physical conditions can support the results obtained in our study, but also the socio-cultural differences, the positive religious confrontation, the family support the patient is granted to perform his activities of daily life, and the integral assistance that was offered to patients in this study. Contrarily, the patient may develop a sense of denial since the diagnosis. In the literature, as a defense mechanism and psychological refuge, this feeling of denial is common among patients diagnosed with chronic diseases. External reality is denied, because the individual seeks to protect the consciousness from any aspect that may cause suffering.<sup>33</sup>

Other aspects not included in this study, such as hyper endemicity of leprosy associated with low socioeconomic conditions, may also contribute to a greater impact on individuals' quality of life.<sup>21</sup>

Regarding the evaluation of body image in leprosy patients, we identified only two studies<sup>14,34</sup> using the HFD, what configures a scarce area of research. When we verified that only the minority (21%) of the participants of this study drew an omitted or cut off feet, we agree with Macário<sup>34</sup> who concluded that the sensitivity changes are not necessarily a determining factor for the omission of body segments in the HFD of patients with leprosy.

The omission or disfigurement of body segments may indicate conflicting regions, not integrated with consciousness,<sup>14</sup> that is kept secret by the individual who undergoes functional and aesthetic changes, what leads to stigma. The omitted or cut off drawing of the feet suggests feelings of helplessness and loss of autonomy,<sup>17</sup> emphasizing that, although they have not been observed in predominance, these feelings are part of the internal and external reality of these patients.

**Table 4.** Mode, median, and mean of the Neuro-QoL domains of patients with physical disability due to Leprosy

Domains QoL	DoD 1			DoD 2			P value
	Median	Mode	Mean	Median	Mode	Mean	
Pain	6.42	9.85	6.94	4.92	1	5.32	0.0135*
Sensitivity Loss/Reduction	11.66	15	10.03	10	15	9.39	0.5902
Sensory-motor diffuse symptoms	9.16	11	8.96	7	1	7.47	0.1118
ADL limitation	7.25	12	7.75	6.75	3	7.08	0.3849
Social Relations Disorder	5.37	5.25	5.88	4.62	3	5.17	0.0532
Emotional distress	6.78	3	7.51	5.28	1	6.44	0.2437
Questions	Median	Mode	Mean	Median	Mode	Mean	P value
Impact/domains of QoL	3	3.33	2.85	2.5	1	2.48	0.1023
QoL/feet problems	3	4	3.05	3	4	2.98	0.8301
General QoL classification	3	3	2.55	3	3	2.71	0.5127

\* $p \leq 0.05$ 

Garcia et al.<sup>35</sup> postulate that dependence and feelings of helplessness often prevent the patient from developing autonomy behaviors. For Campos, the omission of the feet indicates difficulty of contact and feeling of loss.<sup>36</sup>

The fact that 34% of individuals draw sharp hands and feet, according to Buck,<sup>17</sup> it implies hostility related aspects. The patient, once affected by an infectious and contagious millenary disease, which is also stigmatized by fear and isolation, may have experienced stories of suffering having been rejected, discriminated and segregated by both the family and society. Another hypothesis may be associated with the difficulty in caring for one's own body when there is loss or decrease of sensitivity, what may lead to injuries, ulcers, and bone resorption, among others. There are attitudes of self-rejection, as observed by Baialardi,<sup>6</sup> when he states that hostility occurs against the body itself driven by the changes caused by the evolution of the disease.

There was a predominance of drawings that did not include any indication of pupils (48%), suggesting poor contact with reality.<sup>17</sup> Perhaps the empty stare, without direction, is an attempt by the patient to avoid the painful reality of diagnosis and treatment, among other implications in physical and psychological health, in short, the acceptance of the disease.

The qualitative signs of HFD, evidenced in this study, should be considered only as suggestive and, therefore, without any isolated and invariable diagnostic purposes.<sup>17</sup> We agree with Borsa<sup>37</sup> who observed a lack of information regarding the interpretation criteria of the items found in HFD.

Although HFD is a valuable tool, some authors recommend caution in the use of this instrument when evaluating the body image and caution in checking whether the possible issues identified by the drawings correspond

to reflexes of body image disorders or influence other factors.<sup>38,39</sup>

The association between the Neuro-QoL and DoD instrument showed that the only statistically significant domain was Pain, inferring that people with DoD 1 present greater loss in QoL when compared to those with DoD 2. Patients with DoD 2 experience the disease in a chronic way when compared to painful reactions caused by inflammatory processes. The Pain domain also seemed compromised in the study by Reis et al.<sup>40</sup> who assessed the QoL of leprosy patients with the WhoQoL-Bref.

The results obtained from the association between HFD and DoD reveal that patients with visible physical disabilities (DoD 2) tend to omit the nose and make the drawings of the human image in small size. According to Buck,<sup>17</sup> small proportions relative to the page suggest feelings of insecurity, apathy, and discontent. Studies<sup>6,7</sup> also show that leprosy patient experiences are permeated with feelings of inferiority, shame, fear of rejection, and insecurity regarding the loss social and family relationship. These feelings are intensified when visible deficiencies are present in patients' lives, what imposes changes in their habits and extra health care needs, "segregating" them, once again, from what is conceived as healthy.

It was found that there was a significant association between the drawing of the foot (HFD) and the domain Diffuse Sensory-Motor Symptoms (Neuro-QoL). It is assumed that patients who omit their feet in the HFD present a loss of quality of life in this area and undergo balance issues or instability problems to walking or stand. This finding can be strengthened if we consider that only 3% of the patients have drawn the ground lines, what symbolizes a firm and steady ground that allows them to walk safely.

## CONCLUSIONS

Although all patients presented with foot complications, QoL was classified as "good" by the majority of the study population. In addition to the presence of DoD 2 evidenced in most patients, the Loss/Sensitivity Reduction domain (Neuro-QoL) presented a higher loss of QoL. It can be inferred that the decrease or absence of sensitivity causes limitations to family, social and professional life, jeopardizing the individual's ability to work.

In this case, HFD can assist the therapeutic planning of patients with physical disabilities. However, the use of this instrument has limitations that can be overcome with the development of qualitative research, exploring other issues that specifically address aspects of body image.

In HFD, the specific segments of the body that can suffer physical deficiencies (eyes, ears, hands / fingers and feet) presented peculiar characteristics that can suggest compromise of body image. The drawings in the study reflect psychological aspects that are constituted of feelings of insecurity, apathy, hostility and aggression, poor contact with reality, feelings of helplessness and loss of autonomy.

Patients with DoD 1 may present a greater losses in the Pain domain when compared to those with DoD 2. This may explain when the patient is in the initial phase of neuropathy, in which pain is a common symptom. However, patients with visible physical disabilities (DoD 2) generally tend to have feelings of insecurity and sadness.

There is a need for a multidisciplinary care and an integrated approach to the problem of leprosy. Psychotherapy can lead patients to understand their physical and emotional condition, to reorganize their body image,

to improve self-esteem and QoL. The results from this study can contribute to the planning of more effective interventions, focusing on psychotherapy, health education, disability prevention and self-care practices.

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