ABSTRACT

Objective: To identify the main deformities and disabilities presented by people with leprosy. Method: It is a descriptive, analytical-documentary, with retrospective design and a quantitative approach. The random sample was comprised of 50 medical charts of patients with diagnosis of leprosy served in the physiotherapy outpatient unit of the Hospital Complex Clementino Fraga / Joao Pessoa/PB / Brazil. The statistical analysis was performed using Epi info, version 3.5.1, and the results were exposed in figure and tables. This study had its research project approved by the Ethics Research Committee of the University Hospital Lauro Wanderley, protocol nº 357/2010. Results: The patient who underwent from one to six polychemotherapy sessions (MDT) had a 4.76 times greater chance of having fewer damaged nerves.

Conclusion: leprosy is still a disease of significant prevalence and it requires continuing education, with the goal of guiding people about the disease and how to control it, thus reducing the stigma and the prejudice.

Descriptors: Leprosy; Disabilities; Physiotherapy.

RESUMEN

Objetivo: identificar las principales deformidades e incapacidades presentadas por las personas con Hanseníase. Método: estudio descriptivo, analítico documental, con delineamiento retrospectivo y abordaje cuantitativo. El muestreo aleatorio se compuso de 50 historiales de pacientes con diagnóstico de Hanseníase atendidos en el Ambulatorio de Fisioterapia del Complejo Hospitalario Clementino Fraga (JP, Brasil). El análisis estadístico se realizó utilizando el software EPI-INFO, versión 3.5.1, y los resultados se expusieron en figura y tablas. Este estudio tuvo el proyecto de investigación aprobado por el Comité de Ética en Investigación del Hospital Universitario Lauro Wanderley, protocolo nº 357/2010. Resultados: el paciente que realizó de una a seis Poliquimioterapias (PQT) tuvo 4.76 veces más posibilidades de tener menor cantidad de nervios afectados. Conclusion: la Hanseníase todavía es una enfermedad de significativa prevalencia, siendo necesaria educación continua con el objetivo de orientar a las personas sobre la enfermedad y de reducir el estigma y el prejuicio. Descriptores: Hanseníase; Incapacidades; Fisioterapia.

Paper elaborated from the monograph << Assessment of deformities and disabilities in patients with leprosy who were participating of a prevention programme of the Hospital Complex Clementino Fraga >> presented to Associação Paraibana de Ensino Renovado/ ASPER. João Pessoa/PB/Brazil, 2010.

English/Portuguese

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INTRODUCTION

Leprosy is a chronic, endemic and infectious/contagious disease. Although there is a worldwide progress in the drug treatment, this disease remains one of the serious public health problems in Brazil, due to its high prevalence, chronic evolution capacity to cause disabling or deforming injuries and ease of proliferation of the infection focus.1-2

The manifestation form is based on the number of injuries presented by the patient, which are operationally classified as paucibacillary (shelter a small number of bacilli and number of lesions smaller than five and multibacillary (whose skin smear is positive and they have more than 5 skin lesions or over one affected nerve trunk).3-4

These lesions cause peripheral nervous system disorders. The bacillus has a very long incubation period, lasting from three to five years, and its multiplication occurs in a slow way, mainly affecting the skin, nerves and muscles.5

In Brazil, the incidence of the disease in question is 4.1 and its detection is 2.3 per 10,000 inhabitants, accounting for 96% of cases in Latin America, besides presenting variations in the prevalence rate in the various states and regions of our country (Brazil). The Northeast, in turn, shows increasing trends of epidemic. It is a justifiable fact, since in economically disadvantaged areas, the malnutrition, the lowest clarification about the disease and the climate make the population more exposed to diseases like leprosy.1-2

Nevertheless, the prevention of disabilities is performed through simplified neurological assessment in these patients, allowing diagnosis and early intervention in clinical pictures of neural impairment, as well as monitoring of the patient.6 In this context, physiotherapy plays a decisive role in the prevention of deformities and disabilities caused by neuritis, and guidance regarding the need for self-care.

OBJECTIVE

● To identify the main deformities and disabilities presented by people with leprosy.

METHOD

It is a descriptive, analytical-documentary, with retrospective design and a quantitative approach, where we have assessed the medical charts of patients diagnosed with leprosy who were monitored in the physiotherapy outpatient unit of the Hospital Complex Clementino Fraga, in the city of João Pessoa / PB / Brazil.

The study sample consisted of 50 medical charts of patients of both sexes, aged 18 years old or over, randomly selected and who were monitored during the period between April 2008 and July 2010. We excluded records of patients submitted to monotherapy or with negative laboratory tests and inconclusive clinical characteristics. Data collection was performed at the Medical Archiving Service - Serviço de Arquivamento Médico (SAME) of the aforementioned hospital, in the period July-August 2010. From the simplified evaluation form of the neural function, recommended by the Brazilian Ministry of Health, as well as by a semi-structured questionnaire, elaborated by the researcher, containing questions relevant to the sociodemographic and clinical variables included such as: gender, age, origin, education level, MDT number, the amount of returns, occupation, clinical manner, occurrence of neuropathy, and number of damaged nerves, among others.

For descriptive and comparative analysis of the association between the severity of injuries and the attendance of the program follow-up, we used the binary logistic regression to assess the association between variables and the number of damaged nerves. Where we calculated the coefficient of association (or OddsRatio Odds Ratio[OR]) to check the probability that an event will occur divided by the probability that it will not occur, by checking the chance of an individual presenting a greater number of damaged nerves concerning the tested variable.

Statistical analysis was performed using Epi Info (statistical package produced by the Center for Disease Control of the U.S.), version 3.5.1, with public domain. Subsequently, the results were displayed in the form of figure and tables to facilitate the understanding about them, by using Microsoft Office Word 2007, as well as in Excel spreadsheet for storage of the collected data.

This study was approved by the Ethics Research Committee of the University Hospital Lauro Wanderley, under protocol nº 357/2010, Cover Sheet nº 349284, satisfying the requirements of the Resolution 196/96 from the National Health Council of Brazil.

RESULTS AND DISCUSSION

The aspect of leprosy, as well as the one of...
the disabilities determined by it, varies among different regions of the world and among the countries where this disease still exists. Such sickness causes a strong social and psychological impact on those affected individuals, as well as in their families and society.7–8

In the assessing with regard to the presentation, we have observed the tuberculoid form followed by the dimorphic form (Figure 1). In a study, conducted in 2011, it was observed that the majority of patients presented the tuberculoid form, with a rate of 36.3%. Such fact can be justified due to the diagnosis has been made in the initial phase of the disease (indeterminate). Leading us to believe that the sick people sought health services before the dissemination to the most serious and contagious forms of the disease.7

In another study, conducted in 2010, the authors describe that the most predominant clinical forms were the dimorphic and the virchowian and that, furthermore, the degree of disabling injuries caused by the epidemic is most important in this disease genre, having a need of closely monitor these patients to verify signs of nerve damages, since most of them may develop sequelae that can be disfiguring, mutilating and crippling, by triggering disorder of multidimensional order.9–10

Figure 1. Distribution of the type of leprosy, according to the registry of the Clementino Fraga Hospital. João Pessoa/PB/Brazil, 2010.

The age of patients ranges from early childhood to more advanced ages. The sickness in question involves both sexes; in most of the world, it focuses more on males, in a ratio of 2:1, probably due to greater exposure.11

Regarding the schooling level, in 2007, 8.7% of cases were reported as illiterate and 53.4% as having incomplete Elementary School. 8.6% of cases were reported as having complete Elementary School; 5.9% had incomplete High School; 6.5% had completed High School; 0.8% had incomplete Higher Education and 1.3% had complete Higher Education. The most frequent age group was from 15 years, with the highest concentration of cases in illiterate people and in those with lower schooling levels.12

In assessing the gender it was not observed difference between males and females, suggesting that a study with a larger sample of patients be conducted.

Table 2 shows that of the 50 surveyed medical charts, 26 (52%) received a dose of
polychemotherapy and 29 (58%) had a multibacillary classification. Taking into consideration that patients with leprosy bacillus are treated with MDT according to their functional classification. 13

Table 2. Distribution of the independent variables. João Pessoa/PB/Brazil, 2010.

<table>
<thead>
<tr>
<th>Variables</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDT number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>From one to six</td>
<td>24</td>
<td>48</td>
</tr>
<tr>
<td>Over six</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>Classification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paucibacillary</td>
<td>21</td>
<td>42</td>
</tr>
<tr>
<td>Multibacillary</td>
<td>29</td>
<td>58</td>
</tr>
<tr>
<td>Number of PI returns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>From one to four</td>
<td>29</td>
<td>58</td>
</tr>
<tr>
<td>From five to fourteen</td>
<td>21</td>
<td>42</td>
</tr>
</tbody>
</table>

In association with the MDT treatment, prevention activities and treatment of physical disabilities should integrate the leprosy therapy, which will help to identify any complications, such as neuritis and the leprosy reactions. 14

In Table 3, we can see the relation with the performed MDT number, in which there was a statistically significant association between the number of damaged nerves and the MDT number (p = 0.01), indicating that the patient who underwent from one to six MDT had a 4.76 times greater chance of having a reduced amount of damaged nerves (up to three nerves).

Table 3. Association between the number of damaged nerves and the variables. João Pessoa/PB/Brazil, 2010.

<table>
<thead>
<tr>
<th>Variables</th>
<th>OR</th>
<th>IC 95%</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDT number</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>From one to six</td>
<td>0.21</td>
<td>0.06 - 0.71</td>
<td>0.01*</td>
</tr>
<tr>
<td>Over six</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paucibacillary</td>
<td>0.10</td>
<td>0.02 - 0.40</td>
<td>0.001*</td>
</tr>
<tr>
<td>Multibacillary</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of PI returns</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>From one to four</td>
<td>0.18</td>
<td>0.05 - 0.61</td>
<td>0.006*</td>
</tr>
<tr>
<td>From five to fourteen</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All manifestations noted in nerves and entrails can be avoided if the diagnosis and the treatment are early made, while the bacillus is restricted to the superficial nerve endings. 14

Through the results you can see that there was a significant correlation between the number of damaged nerves and the classification of leprosy (p = 0.001), indicating that individuals with paucibacillary leprosy showed a ten times greater chance of having up to three damaged nerves (Table 3). According to some authors, the longer the time elapsed between the onset of the first symptoms of leprosy and the start of treatment, the greater the likelihood of neural damage. 8

In assessing the amount of returns, we observed a statistically significant association (p = 0.006), indicating that individuals who have had up to four returns showed a 5.5 times greater chance of having up to three damaged nerves (Table 3).

In analyzing the three groups of patients for five years, it has been found that paucibacillary cases, without prejudice to the neural function detected in diagnosis, had low risk of nerve injury (1.6%), since the paucibacillary cases with loss of neural function detected in diagnosis or the multibacillary without loss of nerve function present a medium risk of nerve injury (14.9%), and the multibacillary cases with loss of neural function show a high risk of having nerve injury (65.8%). We have realized that the injuries occurred especially in the first two years. 15

Among the studied patients, 30% (n = 15) showed some type of reaction (Table 4). These reactions are presented during the treatment and may persist after the end of the same, since the early diagnosis of this disease and immediate recognition of the reactive clinical pictures guarantee the interruption of the transmission chain and the prevention of physical disabilities. 16
The evaluation of the disability degree is of essential importance in identifying lesions for each new case of leprosy. The degree describes the condition of the patient at the times of diagnosis, treatment and hospital discharge, varying on a scale from zero to two, whose investigated amendments are eyes, hands and feet. Thus, we use the highest assigned degree as the patient’s disability degree.  

Some authors highlight that one of the reasons for the drop out and irregularity in the treatment of patients with leprosy is the ingestion of the medicinal drugs for several months. Warning up that if the professional is not aware and routinely apply the protocol of disabilities assessment, the changes will occur and deformities will be installed without the occurrence of an early and adequate therapeutic intervention, which could lead to the worsening of the clinical picture.  

### CONCLUSION

Leprosy is the main cause of disabilities among the infectious/contagious diseases and should be prevented and early treated, as well as neuritis, in order to avoid the onset of deformities that cause physical disabilities. In turn, the physiotherapy assumes a huge role, by making the prevention of disabilities, acting from the early diagnosis of neuritis until their treatment, thereby preventing the installation of deformities and inability and, consequently, thus reducing the stigma and the prejudice caused by leprosy.

### REFERENCES


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Characterization of the participants of a...