

Elderly Profile with Leprosy in Pará between the Years 2015 to 2018

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Abstract—Objective: To identify the epidemiological profile of elderly people with leprosy in the State of Pará in the 2015-2018 historical series. **METHOD:** The study is epidemiological, retrospective, descriptive-exploratory, with a quantitative approach and with data extracted from the Department of Informatics of the Unified Health System, on the diagnosed cases of leprosy in the elderly in the period 2015-2018 in the state of Pará. **RESULTS:** A total of 1,782 cases of leprosy were found in the elderly in the 2015-2018 period in Pará, with a predominance of males, with the most prevalent form being dimorphic and the most disabling grade was grade 0. In addition, the multibacillary diagnosis presented the highest index of cases. **CONCLUSION:** The importance of adequate and continuous treatment is emphasized in order to combat possible complications of Hansen's disease, promoting an improvement in the quality of life of these patients.

Keywords—Leprosy; Aging; Epidemiology.

I. INTRODUCTION

The population aging process brings several changes in the aspects that involve health in Brazil. The growing increase in chronic non-communicable diseases (CNCD) is considered a collective health problem, since it can cause or even aggravate other diseases, especially in the elderly population, because of the progressive susceptibility that this age group presents (Mourão, Xavier, Neri, & Luchesi, 2016).

Among the chronic diseases of greater national relevance, there is leprosy, which has high rates in the country, with the second highest incidence in the world, continuing with endemic characteristics in the country and being the target of several public policies in the area of health for the control and treatment of this pathology. Its contagion occurs through direct contact with infected people, requiring an interruption of the transmission chain through treatment and an early diagnosis to prevent new infections (Sousa, Silva, & Xavier, 2017).

The disease is caused by the bacillus *Mycobacterium leprae* and can develop in tuberculoid, dimorphic, viral or indeterminate forms, and the course of the disease affects the immune system's response to a current infection.

Among the main causes of virulence of the infection is low or suppressed immunity, with an elderly population highly affected by this aspect, since the development of pathologies at this age is common due to the decline in immune responses (Silva et al., 2018).

The elderly, when affected by leprosy, have greater functional impairment and risks of triggering disabling processes and dermatoneurological impairments, causing a gradual loss of autonomy. Thus, it is essential to evaluate and monitor the quality of life rates of these patients, as well as the implementation of resolute and effective actions aimed at the well-being of these individuals (Azevedo, Silva, Tomasi, & Quevedo, 2013).

Furthermore, it should be noted that, although studies on strategies to combat and increase the quality of life of individuals with this disease are a priority in countries with high incidence rates, it is observed that in low and middle income countries, such as Brazil, studies are still scarce, interfering in the development of effective interventions to combat leprosy (Duncan et al., 2012).

The study of this complex disease, especially within the senescence process, becomes essential for understanding the nuances that involve leprosy. Given the above, this study aimed to identify the epidemiological profile of the elderly with leprosy in the State of Pará in the 2015-2019 historical series, since this

learning is essential for the development of strategies that promote advances in the quality of life of these individuals.

II. METHODOLOGY

The present study is epidemiological, retrospective, descriptive-exploratory with a quantitative approach with data extracted from the Department of Informatics of the Unified Health System (DATASUS), available at the electronic address <http://www2.datasus.gov.br/DATASUS>. DATASUS is responsible for collecting, processing health data, in particular aggregating epidemiological information on the main health problems and problems in order to foster indicators, control and evaluate health policies and subsidize resolute combat and coping plans.

For the study, data related to cases diagnosed in the elderly in the 2015-2018 historical series in the state of Pará were selected. The selection of measures is considered: year of diagnosis and cases by municipality of specific notification for the elderly, considering the concept of Statute of the Elderly, or what is the consideration of people aged 60 or over, in Brazil.

The following variables were selected for the study: year of diagnosis (2015-2018), sex, age, clinical form of leprosy (indeterminate, tuberculoid, dimorphic, dimorphic, virchowian, unclassifiable), classification of diagnosis (paucibacillary and multibacillary), detection mode (referral, spontaneous demand, collectivity examination, contact examination, other modes, ignored), assessment of disability diagnosis (grades 0, 1, 2 and not evaluated), therapeutic diagnosis scheme (doses of PQT/MB/ 6, PQT/MB/ 12 doses, other substitute regimens and skin lesions (2 to 5 lesions, more than 5 lesions, ignored).

Data collection was carried out in the period of February 2020. From the selection of variables, there was data grouping, application of descriptive statistics and data analysis, production of information from the interpretation with the literary consensus.

III. RESULTS

1,782 leprosy cases were found in the elderly in the 2015-2018 period in Pará. Large variations were observed in this period, with the peak of cases in 2017 with 582 occurrences (33%), followed by 2015 with 520 events (29%), 2016 with 499 cases (28%), 2018 with 179 diagnoses (10%) and ignored 2 cases (0.001%).

Regarding a gender variable, the male predominating with 1,262 (71%) in the study sample, followed by women with 520 (29%) occurrences. As for the age group, 1,100 (62%) cases were elderly from 60 to 69 years old, 508 (29%) aged between 70 and 79 years old and 174 (10%) aged 80 or older.

As for the epidemiological profile of the elderly, the clinical form was determined mainly by 168 (9%) cases and by 1,505 multibacillary cases (84%). Regarding the detection mode, the majority occurred due to spontaneous demand 729 (41%), as shown in Table 1.

Table 1: Clinical-epidemiological profile of the elderly with leprosy in Pará between the years 2014 to 2015

Variables	Total n = 1.782	
	Nº	%
Sex		
Male	1.262	71%
Feminine	520	29%
Age group		
60-69	1.100	62%
70-79	508	29%
80 or more	174	10%
Form Clinic		
Indeterminate	168	9%
Tuberculoid	159	9%
Dimorphic	980	55%
Virchowian	330	19%
Unclassified	97	5%
Ignored	48	3%
Diagnosis rating		
Paucibacillar	275	15%
Multibacillary	1.505	84%
Unknown	2	0%
Mode Detection		
Forwarding	546	31%
Spontaneous demand	729	41%
Examination community	27	2%
Contacts exam	55	3%
Other modes	34	2%
Unknown	391	22%
Forwarding	546	31%
Diagnostic evaluation Disability		
Grade 0	824	46%
Grade 1	606	34%
Grade 2	195	11%

Not rated	96	5%
In blank	61	3%
Scheme Therapeutic the Diagnosis		
PCT / PB / dose 6	274	15%
PCT / MB / 12 doses	1.498	84%
Other substitute schemes	6	0%
PCT / PB / dose 6	4	0%
Cutaneous lesions		
2 to 5 lesions	515	29%
> 5 injuries	164	9%
Unknown	1.103	62%

Source: Ministry of Health / SVS - Sinan Net, 2020.

Regarding the functional evaluation and the type of treatment of the elderly with leprosy, it was analyzed that the majority of the elderly have grade 0 with 824 cases (46%). Regarding the therapeutic scheme, 1,498

cases (84%) are submitted to doses of PQT/MB/ 12 doses and when skin lesions are affected by the pathology, in most cases, 1,103 (62%) were ignored, as shown in the Table 2.

Table 2: Functional assessment and type of treatment of the elderly with leprosy.

Variables	Total n = 1.782	
	N°	%
Diagnostic evaluation Disability		
Grade 0	824	46%
Grade 1	606	34%
Grade 2	195	11%
Not rated	96	5%
In blank	61	3%
Scheme Therapeutic the Diagnosis		
PQT/MB/ dose 6	274	15%
PQT/MB/ 12 doses	1.498	84%
Other substitute schemes	6	0%
PQT/MB/ dose 6	4	0%
Cutaneous lesions		
2 to 5 lesions	515	29%
> 5 injuries	164	9%
Unknown	1.103	62%

Source: Ministry of Health / SVS - Sinan Net, 2020.

As for the distribution of cases by sex and clinical form of leprosy, there was a predominance of males, with a total of 1,262 (71%) cases and, regarding the clinical form, 97 (5%) had leprosy in an undetermined manner. stage 89 (5%) of the tuberculoid form, 710

(40%) dimorphic and 252 (14%) Virchowian. In addition, a survey also found 75 (4%) unclassified cases and 39 (2%) ignored. For better visualization, the data above are shown in table 3.

Table 3: Distribution of cases by sex and clinical form of leprosy

Sex	Indet.	%	Tuber.	%	Dimorf	%	Virc	%	No Clas.	%	Ign.	%	Total	%
Male	97	5%	89	5%	710	40%	252	14%	75	4%	39	2%	1262	71%
Feminine	71	4%	70	4%	269	15%	78	4%	22	1%	9	1%	520	29%
Total	168	9%	159	9%	980	55%	330	19%	97	5%	48	3%	1.782	100%

Source: Ministry of Health / SVS - Sinan Net, 2020.

Regarding the degree of incapacity to cure, 446 (25%) were classified as grade 0, 194 (11%) as grade I elderly and 61 seniors (3%) as grade II physical disability.

It was also highlighted in the survey that of the 835 people classified in the sample, 134 (8%) had not yet been assessed. The distribution is shown in table 4.

Table 4: Distribution of elderly people with leprosy with incapacity to cure between the years 2015 to 2018 in Pará.

Curing Failure	Total n = 835	
	Nº	%
Grade 0	446	25%
Grade 1	194	11%
Grade 2	61	3%
Not rated	134	8%
Total	835	47%

Source: Ministry of Health / SVS - Sinan Net, 2020

IV. DISCUSSION

Leprosy is a disease considered relevant in the Amazon context, but, despite the decline of the pathology in other regions of Brazil, there is a dizzying growth and / or maintenance of numbers in the region, a slight slight decrease sometimes occurs over the years, persisting thus, the constant concern with early diagnosis, treatment and search for contacts (Ribeiro, Silva & Oliveira, 2018).

In a study by Ribeiro, Silva & Oliveira (2018) confirmed that in 2015 it was the highest peak of the disease in Brazil and, subsequently, there was a gradual decline in subsequent years in the country, except in the north and northeast regions that maintained the proportion of cases.

Thus, the prevalence of disease emergence or control depends on the social determinants of health and the population's access to health services. The fact is that, in

addition, there was an increase in the number of cases in the elderly population, which implies the need for a different approach for this public, both in terms of diagnosis and monitoring of this population, since there is a growing concern with the reaction of medications and the emergence of reactions to leprosy (Viana, Vasconcelos, Aguiar & Aquino, 2017).

Regarding the age group, according to this research, other studies also show that the prevalence of leprosy in the elderly is more prevalent in the age group from 60 to 69 years (Silva et al., 2018).

According to Oliveira et al. (2019), in a cohort study in the Amazon Region, it was shown that there was an increase in the rate of detection of leprosy in Pará in adults, as well as in the number of cases in the elderly, however, the detection rate decreased dramatically in this population, which contributes for the elderly to seek assistance late.

Compared to this, the same author describes that a trend should increase the number of leprosy cases in the elderly in Pará in the coming years.

In addition, agreeing with the predominance of males in the present study, the World Health Organization describes that the prevalence of the disease is approximately 3 times more prevalent in males than in females (World Health Organization, 2016).

Regardless of the clinical forms of leprosy, in this study there was a predominance of dimorphic and virchowian forms, in both sexes. This result was consistent with the study by Oliveira & Romanelli (1998), which showed a sample of 202 people, 146 (72.77%) with these clinical forms.

Concomitantly to that described, another study by Ferreira, Ignotti & Gamba (2012), in the hyper-endemic region, found that 63% of the public was male; in adulthood, the largest set of cases was of the dimorphic clinical form (39.6%), followed by virchowian (30.2%), tuberculoid (13.2%) and indeterminate (9.4%).

Corroborating the above, a study was found in the northern region of Brazil, with a predominance of the dimorphic shape, reaching a total of 6,437 cases. In addition, it also showed that the greater exposure of men to the triggering factors of the disease is configured as one of the main factors of disparity found between the sexes (Vieira, Aragoso, Carvalho & Sousa, 2014).

As for the classification of the diagnosis, a comprehensive number of paucibacillary and multibacillary patients, predominant in the study, can be observed. In 1988, he established clinical criteria, considering paucibacillary cases with up to five skin lesions and/or affected nerve trunk and multibacillary cases with more than five skin lesions and / or more than one affected nerve trunk (Lastória & Abreu, 2012).

According to Magalhães & Rojas (2007), the way of detecting and distributing cases and detection rates coincide, in part, with areas of greater population in the Amazon, such as the capitals of the metropolitan regions (Manaus, Roraima and Belém), while reiterating the focal distribution in certain areas of western and eastern Amazon.

They are classified as grade 0 of physical disability, grade 1 of disability occurs when there is a decrease or loss of sensibility in the eyes, hands and feet and grade 2 of disability when there are more serious injuries in the eyes, hands and feet (Ribeiro & Lana, 2015).

In the analyzed results, 824 (46%) have characteristics of grade 0, grade 1 606 (34%) and grade 2 195 (11%), with

a predominance of grades 0 and 1, which corroborates that patients are in a physical stage. disability of the disease.

Regarding the therapeutic scheme and polychemotherapy, it uses schemes based on operational classification. For paucibacillaries, there are 6 doses, including 1 dose of rifampicin 600 mg / month and dapsone 100 mg / day. For multibacillaries, there are 12 doses (Lastória & Abreu, 2012). In the results obtained, it is explained that the treatment index of polychemotherapy using 12 doses for multibacillary patients has a high number, with 1,498 (84%) and 274 (15%) of cases for patients with diabetes.

In addition, the skin lesions described in the results help to classify the correct diagnosis. According to Lastória & Abreu (2012), for the diagnosis of paucibacillaries cases, up to five lesions and multibacillaries cases of five or more lesions must be taken into consideration. In the results, from 2 to 5 injuries caused, if higher index.

As for the variable inability to cure, this study agrees with other studies that point to the predominance of grade 0 in the samples. In a retrospective study, 35% of the sample was grade 0, 34% grade I and 26% grade II (Alves, Barreto, Fogagnolo, Contin & Nassif, 2010). As in the research carried out in Rondônia on the medical records of patients, who presented a large majority with grade 0 (75%), grade I (18.4%) and grade II (6.6%) (Vieira, Aragoso, Carvalho & Sousa, 2014). This degree is directly related to the evolution of the symptoms of the disease, and continuous assessment of patients is essential to identify patients and avoid complications.

It was also found that 134 (8%) patients were not assessed as to the degree of the disease. These data are in agreement with others that emphasize the need to monitor these patients to check the evolution of the disease. Values below the evidence were found in the literature, with 15 participants (7.5%) (Ferreira, Ignotti & Gamba, 2012) and 475 (3%) (Vieira, Aragoso, Carvalho & Sousa, 2014), which can be explained by account the number of people involved in the research, which significantly change these values.

V. CONCLUSION

Knowing that leprosy has a number of relevant cases, a more in-depth study on the theme is of great importance, in addition to the lack of more detailed information about the disease for it to occur and the stigmatization of the pathology, being guided by the negligence and exclusion of these patients, these and other factors contribute to

treatment abandonment, further aggravating the diagnosed cases.

It is worth mentioning the importance of adequate care and treatment for the elderly, because, in addition to living with secondary diseases, they are susceptible to the aging process, it must be taken into account that these factors linked to the diagnosis of leprosy directly influence the recovery process. In this sense, there is a clear need to reduce disease rates, offering specialized care to improve the health situation, with the aim of promoting the body and mental health of these elderly people.

In addition, promoting, through public policies, continuous patient care, with satisfactory clinical and financial assistance, covering the fight against pathology, treatment and improvement of quality of life and prevention of leprosy. Thus, through campaigns such as "Purple January", bring a more comprehensive and educational explanation about leprosy for the population.

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