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## EPIDEMIOLOGICAL PROFILE OF LEPROSY AMONG CHILDREN AND TEENAGERS IN A FAMILY HEALTH UNIT OF THE CITY OF RECIFE, PERNAMBUCO, BRAZIL

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### ABSTRACT

**Objective:** To identify the epidemiological profile of leprosy among children and teenagers in a Family Health Unit in the city of Recife-State of Pernambuco, in the last 4 years.

**Method:** The present study was composed of 16 medical records of children and adolescents who were or are being treated for leprosy in the years 2010 to 2013, being of the document, and exploratory, retrospective type with a quantitative approach, carried out in April/2014.

**Results:** The results show that the majority are female children (56.2%) between 4 and 8 years of age (37.5%), brown (75%), and with elementary education from 1<sup>st</sup> to 4<sup>th</sup> degree (37.5%) and in almost the entire sample are students (93.7%).

**Conclusion:** Leprosy continues to be a public health problem, requiring measures that can reduce the prevalence of this disease in the community, aiming at strategies to break the transmission cycle of leprosy, as well as identifying and performing the diagnosis and early treatment.

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## INTRODUCTION

Leprosy is an infectocontagious disease caused by the bacteria *Mycobacterium leprae*, which affects the peripheral nervous system (PNS), causing sensory and tegumentary changes that

can cause important physical disabilities and develop into permanent deformities. Brazil is the second most endemic country in the world, setting up leprosy as an important public health problem (Zanardo, 2016). In 2016, the general detection

coefficient of new cases of leprosy was 12.23 per 100,000 inhabitants, which corresponds to 25,207 new cases of the disease, showing high endemicity classification, according to official parameters. (Brazil, 2017). The existence of new cases of leprosy in children less than 15 years old means active transmission circuits (Brazil, 2015). Very high endemic countries leprosy prevalence in children under 18 years old demonstrates the persistence of bacillus transmission, pointing to the difficulties of the health programs to the control of the disease (Pireset al., 2012). The Northeast is in third place in the number of recorded cases in every 100,000 Pernambuco, 36 are diagnosed with the disease may suffer future deformities.

Already the Recife metropolitan region concentrates 55% of cases of Leprosy, in the State of Pernambuco (Brazil, 2013). Social exclusion added to the difficulties in tackling endemic, as indelible mark of Hansen's disease, last name that carries the stigma, prejudice and the suffering of many who were buried alive in nursing homes, dispensaries and of prevention of the Twentieth-Century (Ramos, 2017). Silva Junior et al., (2008) state that at the beginning of the studies and development of cases, leprosy has been described as a disease that caused horror within society as a result of physical deformities in untreated patients, thus causing a wave of bias before the society. According to Pireset al., (2012) the Hansen's disease represents a major public health problem, due to your magnitude and high power of your disability, affecting mainly individuals economically, with inadequate housing conditions, without basic sanitation, devoid of information and access to health services.

The National Leprosy Control Program of the Secretariat for the Epidemiological Surveillance of the Ministry of Health, the disease manifest in childhood between the ages of zero to five years old, may be characteristic of signs of lower income, many houses grouped, many residents, may not be appropriate sanitation, lack of information about what is the disease in this age group. Despite the prevalence of leprosy occur between 12 to 83 years old, the Bacillus can affect any age group since the first years of maturity, depending on location and housing conditions (MELÃO et al., 2011). The Hansen's disease represents a major public health problem, where most of the time is not easily detected, but the importance of this interlocutory appeal and its psychosocial and physical problems cannot be neglected, due to the accelerated evolution of the bacillus and may lead to deformities (Pireset al., 2012).

Nursing as profession centered essentially on the handle and develop its actions especially in the field of prevention and health promotion whether collective, individual, can contribute about way in the self-care by individuals with leprosy (Brazil, 2010a). It was noticed that there are more children and teenagers diagnosed with Leprosy in a community of the city of Recife-PE, thus sparking the interest of the students in a search on family health unit in the District VI, which follows the same because it is believed that a high index can be related to socio-economic condition. The findings of this work will contribute to health teams to reinforce the need for achievement of educational actions of prevention, early diagnosis and treatment of leprosy, as well as active search of new cases. So the study aimed to identify the epidemiological profile of leprosy among children and teenagers, in a family health unit in the city of Recife, PE, Brazil for the past 4 years.

## METHODOLOGY

It was a documentary-type study, exploratory and retrospective of quantitative approach. The same was done in a family health unit (FHU), Fernandes Figueira, Professor in the District VI, in the city of Recife, which carries out primary level care, where it has two health teams. The study population was made up of the records of the children and adolescents who have had or are under treatment of Hansen's disease in the years 2010 to 2013, and which belong to the area of coverage of the FHU in question, after authorization of the Establishment and Assessment of Research Ethics Committee (ECP) of the University Salgado de Oliveira (UNIVESO) where he was approved as CAAE registry: 27291414.8.0000.5289. Data collection took place during the period of April 2014 through verification of the records of the users, of the notification of the SINAN (Reportable Diseases Information System and Notification) and the form that is used by community health agents (CHA). Where there were included records of children between the ages of 4 to 10 years old with a diagnosis of clinically proven and Leprosy teenagers aged up to 19 years old and own record with clinically proven leprosy diagnosis. As a method of exclusion were children and adolescents in the age groups above that abandoned treatment for Leprosy. The sample was intentional, made up of 16 patient records of children and teenagers. The analyses of the data were collated and tabulated in table and graph form with the aid of Microsoft Excel 2007. Then the results were confronted with Brazilian and international literature.

## RESULTS AND DISCUSSION

Through this study, it showed that more than half of the sample of cases of Leprosy were female (56.2%), however there is a very significant percentage of males (43.7%). In that refer to the ages of 04-08 years old had a percentage (37.5%), while the ages of 09-13 years old and 14-17 years old obtained a percentage of 31.2%. Against there's race, was prevalent with brown color (75%) of the sample, black had a percentage of (18.7%) and white color with (6.2%).

**Table 1. Identification of the child or teenager assisted by a Family Health Unit of the city of Recife, Pernambuco, Brazil. April, 2014**

Variables	N= 16	%
Gender		
Female	09	56,25
Male	07	43,75
Age (years)		
04 - 08	06	37,50
09 - 13	05	31,25
14 - 17	05	31,25
Race		
White	01	6,25
Black	03	18,75
Maroon	12	75
Yellow	-	-

As for the gender, it was observed a similar study carried out by (Martins et al., 2008). The largest outbreak of leprosy in female diverges from the appointment in the literature, indicating a higher incidence in males, attributed to greater exposure. This picture, has been changing, and can be explained by greater female social mobility due to accessibility of health units (Lana et al., 2003). For Yawalkar (2009), the fact that leprosy be considered an adult and a young adult

disease, there are several reports of cases of Leprosy in children under 15 years old. The fact that there is an increase of infectious patients without treatment in the community and a huge handicap in the surveillance and control of the disease is markable. In regards to color, the results were equal to the study of Aquino *et al.*, (2003), who checked in his study the predominance of brown color. You can take into consideration that the brown color is predominant in the Northeast due to the intermixing of the breed. After studies, there were identified in the discrete case groups of patients with Hansen's disease with predominance of Maroon race, followed by the Black race. In the Northeast there is a predominance of Maroon race (Sahaet *al.*, 2008).

In table 2, it was observed that 100% of the sample is single and the level of education with the highest percentage were the 1<sup>st</sup> to 4<sup>th</sup> degrees (37.5%), from 5<sup>th</sup> to 8<sup>th</sup> degrees (25%), illiterate with (6.2%), literate (18.7%), 2<sup>nd</sup> degree and 2<sup>nd</sup> degree complete with (6.2%). In relation to quantities of people that live in the residence, the highest percentage was of 04-06 inhabitants living in the same residence (75%), with 01-03 people (6.2%), and with 07-09 people had the percentage (18.7%). The type of occupation of the children and adolescents had the majority of the sample (93.7%) being a student and (6.2%) others.

**Table 2. Socioeconomic conditions of the child or teenage assisted by a Family Health Unit of the city of Recife, Pernambuco, Brazil. April, 2014**

Variables	N=16	%
Schooling		
Illiterate	01	6,25
Literate	03	18,75
1 <sup>st</sup> - 4 <sup>th</sup> degree	06	37,50
5 <sup>th</sup> - 8 <sup>th</sup> degree	04	25,00
Secondary incomplete	01	6,25
Secondary complete	01	6,25
Incomplete higher education	-	-
Family members		
1-3	01	6,25
4-6	12	75,00
7-9	03	18,75
10	-	-
Occupation		
Student	15	93,75
House-keeper	-	-
Assistant	-	-
Other	01	6,25

As for the schooling of the population studied (37.5%) have only elementary school I first to fourth degree, i.e., which refers to low social status, particularly noting that the level of knowledge and access to the health service is associated to the number of years studied (Oliveira *et al.*, 2009). For Moet *et al.*, (2004) the social conviviality, the dose of exposure, small environments, living in the same dwelling is a risk factor taking into account the individual patient without treatment.

According to Ponte *et al.*, (2005), is of great importance to know the occupation of the population suffering from Leprosy, to build assistance geared to their needs, and perform appropriate prevention measures. In table 3, (100%) of the sample lived in house built with brick. The numbers of rooms for each of the analyzed sample, showed that most reside in houses with 4 rooms (43.7%), with rooms (25%), 3 to 5 and 6 rooms obtained the same percentage (6.2%) and with one room (18.7%), a major risk factor for the transmission of lepraead, crowded House with several people occupying the same space.

The type of floor of these residences had the majority of the sample (93.7%) coated with ceramic or cement, while the ground from clay (6.2%). With respect to the position of the houses (81.2%) of the sample is not in risk area, but (18.7%) stay in stilt area on top of channels/tide. The type of occupation of the residence's own (87.5%), although there are (12.5%) rented. With respect to the treatment of waste (100%) of the sample garbage is collected by the city. The origin of the home with water (81.2%) comes from well or spring and (18.7%) comes from the general network. Water treatment at home (6.2%) is filtered, (31.2%), (25%) are chlorinated buy mineral water and (37.5%) use other methods for water treatment. There is no sanitation in this community, totaling (100%) of the sample. The fate of feces and urine, most is in the open (62.5) and (37.5%) have pit in their residence.

**Table 3. Housing conditions of the child or teenage assisted by a Family Health Unit of the city of Recife, Pernambuco, Brazil. April, 2014**

Variables	N= 16	%
Nof rooms		
1	03	18,75
2	-	-
3	01	6,25
4	07	43,75
5	04	25,00
6	01	6,25
Type of the floor		
Earthenware	01	6,25
Cement or ceramic paving	15	93,75
Other	-	-
Risk area of the house		
Stilt House (on top of channels/tidal)	03	18,75
Floodable	-	-
Barrier (3 steps up or down)	-	-
Is not in the area of risk	13	81,25
Occupation		
Own	14	87,50
Rented	02	12,50
Given	-	-
Other	-	-
Water origin		
General water network	03	18,75
Well or spring water	13	81,25
Other	-	-
Type of water for consume		
Filtered	01	6,25
Boiled	-	-
Chlorinated	05	31,25
Mineral	04	25,00
Other	06	37,50
Destination of feces and urine		
Pit	06	37,50
Sewer	-	-
Open sky	10	62,50

According to Moura *et al.*, (2012), private individual factors, such as unfavorable socioeconomic conditions, crowded homes also increases the likelihood of the risk of individuals who get leprosy. According to Ferreira *et al.*, (2011) economic partners and epidemiological factors report as the main predisposing factor to the Bacillus, families with less than a minimum wage, condition of occupancy, sanitary drainage, number of residents inhabiting the same space, habits of life make all the difference for the transmission of the disease.

The input mode of leprosy in this sample was 100% case (again, that is, no it was a repeat offender). New case concerns individuals with signs of Leprosy who have never received treatment earlier (Brazil, 2010). As to how clinic diagnosed cases of Leprosy (44%) patients had a Borderline form of the disease, that is, this clinical form showed statistical significance in most cases followed by the indeterminate form

(31%) and Tuberculosis (25%). As the study of Ponte and Neto (2005), the results are similar, with the predominant clinical form the Borderline. This clinical form occurs more often with compromises of nerve trunks, unleashing motor problems, being responsible for the chain of transmission of the disease if they do not have a proper treatment. The operational classification had half of the sample being paucibacillary (50%) being up to 50% injuries (5 multibacillary). As regards the operational classification, the results are similar to the study of Simpson *et al.*, (2010), which found that there were no differences between the paucibacillary forms and multibacillary. This data is of great importance to determine the appropriate treatment, as the chemotherapy scheme. Regarding the assessment of incapacity in the diagnosis there were examined 81.25% and 18.75% were not examined. It is of great importance to skin and neurological examination for detection and prevention of more severe sequelae (Sousa *et al.*, 2011). The high in almost all of them was by healing with 94% and 6% are still under treatment.

High by cure shall be established according to the criteria of regularity to treatment, that is, the number of doses and treatment time as paucibacillary or multibacillary forms, the assessment of the degree of disability and guidelines for the care after discharge (Brazil, 2009). The number of contacts recorded the 16 samples was totaled 62 contactants, of these only 53 were examined. Dessuntiet *et al.*, (2008), reinforces that must also be attentive to the communicants, because these can also sicken or already has the disease. Connecting them is a challenge to the health units, due to the difficulty of the same to attend in the unit to take the skin and neurological examination properly. The assessment of incapacity in healing (69%) was examined and (31%) were not examined. This evaluation is very important to patients, because they are carried out tests to diagnose if there was any sequel due to the magnitude of the disease. Therefore, it is necessary to highlight the importance of identification of the degree of disability in patients affected by Leprosy, after charge of artemether-lumefantrine, to assess and prevent through self-care the physical disability from injury (Finez *et al.*, 2010). In relation to the chart there is a predominance in the year 2011 in increasing disease notifications (75%), that reflects the work that has been carried out at the time due to a lawsuit with the District of the region and other professionals from other nearby units and adjacent.

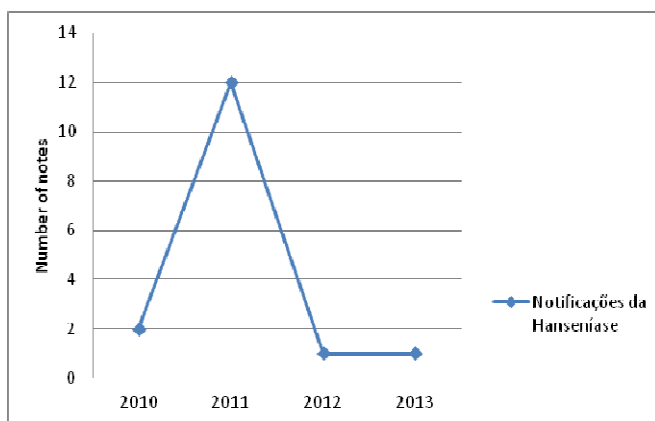


Chart 1. Notification of leprosy of the child or teenage assisted by a Family Health Unit of the city of Recife, Pernambuco, Brazil. April, 2014

As the study of Lana *et al.*, 2004, joint efforts of diagnoses appear to be efficient to identify and diagnose new cases of Leprosy. Already in the year 2010 there were notified (12.5%) and in the years 2012 and 2013 were notified (6.25%) respectively.

## CONCLUSION

Through research it has allowed to identify children and adolescents suffering from Leprosy exhibit the following epidemiological profile; those are women, children ages 4 to 8 years old, Maroon, single, with elementary school I first to fourth degrees and are students. The occurrence of Leprosy occurred by the year of 2011, where 12 were reported new cases of the disease being (75%) of the total sample. Housing conditions in your most reside in a House, built of brick, with tile floors/concrete, is not in risk area, the water in the home is well/spring, and do not have basic sanitation. These children and teenagers live with several people occupying the same space, that is, the number of rooms per household is from 4 to 6 people per residence rooms, this reflects the risk factor, since human settlement is related to an increase of contacts, and by your time, with a greater intensity of disease transmission.

Leprosy is still a public health problem being, requiring measures that can provide the reduction of the prevalence of the disease in this community, aiming to carry out strategies to break the cycle of transmission of leprosy, as well as identifying and performing the diagnosis and early treatment. The nurse and nursing staff should guide and help the patient with Leprosy during and after treatment, assisting with forms of prevention and overcome their fears in relation to prejudice. It is up to the responsibility of the nurse to encourage and stimulate health education about leprosy, especially in the school environment, to enhance knowledge of the disease in the population through children and adolescents acquire information about the disease, signs and symptoms, the form of contagion, the treatment and explain that Hansen's disease is curable, demythologizing the fear and the stigma of the disease.

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