

CLINICAL CHARACTERIZATION, SOCIAL AND DEMOGRAPHIC OF FAMILIES WITH CASES OF HANSENIASIS: USE OF THE GENOGRAM AS A TOOL AUXILIARY

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Abstract: Leprosy is an important public health problem in Brazil, the second country in the world with the highest detection rate of new cases. In 2011, the Ministry of Health recommended that all contacts of new cases be examined; however, the indicators showed that this action is far from what is necessary to have any impact on the reduction of transmission sources. In order to better understand the distribution of leprosy in family groups, the construction of the genogram was adopted as a strategy to be used as a tool for the graphic representation of the family. It represents the different members, the relationship pattern and their main morbidities. The aim of this study was to analyze clinical-sociodemographic data from the family of a patient with leprosy for the construction of a genogram. The data generated from the genogram will help in the monitoring of family members, especially those with clinical suspicion, to make an early diagnosis of leprosy, in addition to favoring the interruption of the chain of transmission of the disease. The study was carried out in the municipality of Inhapim, close to GV, located in the east of Minas Gerais, Brazil. It involved a total of 20 individuals, being one patient with leprosy and the other members of the same family, totaling 04 intradomiciliary and 15 extradomiciliary contacts. The genogram presented four generations (I, II, III and IV) that included the parents of the index case, the index case with its 11 siblings, 8 children, nephews and grandchildren. The data generated by the genogram will help in the monitoring of family members, especially those with clinical suspicion, for an early diagnosis favoring the interruption of the leprosy transmission chain.

Keywords: Leprosy, genogram, contacts

INTRODUCTION

Leprosy is an important public health problem in Brazil, being considered the second country in the world with the highest detection rate of new cases (WHO, 2013, (BRASIL, 2013; LYON and GROSSI, 2013). In 2013, 31,044 new cases were diagnosed in Brazil, meaning a detection rate of 15.44 new cases per 100,000 inhabitants, of which 2,439 were under 15 years of age. The cure rate was 84% and the rate of examined household contacts was 75.1%. Data from 2014 showed that 24,6112 new cases were diagnosed, with a detection rate of 12.14/100,000 inhabitants and 77.3% of contacts examined (BRASIL, 2015). The Ministry of Health has made a commitment to eliminate leprosy, that is, to achieve less than 1 case per 10,000 inhabitants by 2015 (WHO, 2009; BRASIL, 2012; WHO, 2013). The national leprosy control program (PNCH) was implemented as a strategy to achieve this goal, consisting of actions for the early detection of new cases, treatment with MDT and surveillance of household contacts (BRASIL, 2013). In 2011, the Ministry of Health recommended that all contacts of new leprosy cases be examined, however the indicators showed that this action is far short of what is necessary to have any impact on reducing the sources of transmission. Additionally, the BCG vaccine must be applied to contacts without a previous vaccination scar or with only a BCG scar, in the absence of signs and symptoms (WHO, 2013). In an attempt to better understand the distribution of leprosy in family groups, the construction of the genogram was adopted as a strategy, used as a tool for the graphic representation of the family. It represents the different members, the pattern of relationship between them and their main morbidities (DITTERICH et al 2009) The genogram allows a quick and comprehensive reading of the family organization, facilitating the perception of the

relationship of a clinical problem within the family context (DITTERCH, 2005). Like any graphic system, the genogram provides three phases to be followed: 1) construction, which requires an interview and a recording system; 2) reading, in which the different aspects described in the design of the technique are recognized and classified; (3) interpretation that allows formulating hypotheses and arriving at diagnoses or defining hypotheses. The study consisted of collecting the family history of a patient diagnosed with leprosy using the Virchowian Clinical form and building the genogram as an auxiliary tool for clinical-socio-demographic data.

METHODOLOGY

LOCATION AND STUDY GROUP

The study was carried out in the municipality of Inhapim, close to Governador Valadares, located in the east of the state of Minas Gerais, Brazil (Figure 1) and is included in cluster 4 with a high prevalence of leprosy (BRAZIL, 2008).

This study was approved by the Univale Ethics Committee (CEP), filed under No. PQ 022/09-009, and all participants signed an informed consent form (ICF). The study had a total of 20 individuals, one patient diagnosed with the clinical form Virchowiana and 19 individuals who were members of the same family (intra and extra-domestic contacts) who agreed with the study and signed the informed consent. The patient's diagnosis was concluded from the bacilloscopy examination (BAAR) and histopathological examination. All participants in this study were seen by a specialist in Dermatology, linked to the Municipal Health Department of Inhapim – MG. After clinical examination and diagnosis of the patient with leprosy, 19 individuals who were the intra- and extra-domestic contacts of this patient were invited to attend the health center of Bom Jesus do



Figure 1: map of Minas Gerais, access:30/01/2016. https://pt.m.wikipedia.org/wiki/Ficheiro:MinasGerais_Municip_Inhapim.svg

Rio Preto (rural district of the Municipality of Inhapim), where a household survey was carried out with completion of a structured questionnaire and dermatoneurological examination. It is important to emphasize that the patient received specific treatment for leprosy. To construct the genogram, all family members who attended the health center were interviewed.

CONSTRUCTION OF THE GENOGRAM

The construction of the genogram was based on data obtained from the interview and from the application of the structured questionnaire. Briefly, we describe below some important points for its elaboration. In the genogram, all generations residing in the household and one generation above the oldest member were represented; the representations were made in the following order: from oldest to youngest and from left to right, in each of the generations; name, age and/or date of birth of each family member were noted; intra and extra-family relationships were also represented; people who live in the same residence were circled with a continuous line; Different symbols were used to describe important events, such as birth, death, marriage and separation, noting the date on which they occurred. In case of death, the cause was identified and underlined. The program used for graphic construction of the genogram was Wingeno, version 1.1.2.2.

RESULT

DESCRIPTION OF THE STUDY GROUP

The studied group consists of 20 individuals, one patient diagnosed with leprosy presenting the clinical form Virchowiana (index case) and the other

individuals, all being members of the same family, totaling 04 intradomiciliary and 15 extradomiciliary contacts. The patient presented to the dermatology outpatient clinic with nodules in the upper limbs, lower limbs and abdomen, without loss of sensitivity in the esthesiometer test on the hands and feet. However, he presented loss of thermal sensitivity in the lesions (nodules) evaluated by the test performed with cotton soaked in alcohol and also presented loss of tactile sensitivity measured with the esthesiometer in the nodules. Bacilloscopic examination of the ear lobes and elbows was positive with a bacilloscopic index (BI) of 3+. In the clinical examination of the contacts, the father of the index case presented a lesion characteristic of a hypochromic macula in the lumbar region, without changes in sensitivity to the esthesiometer test and without loss of thermal sensitivity verified with cotton soaked in alcohol. The patient could not report whether or not it was a congenital lesion. The tactile sensitivity of the palms of the hands and soles of the feet was also verified with the esthesiometer. There was no loss of sensation. The patient underwent biopsy to collect material from the edges of the lesion for histopathological examination. A patient's niece complained of dark spots in the cervical region that presented fine scaling, with suspicion of pityriasis versicolor, a type of superficial skin mycosis. In this case, direct mycological examination was requested from material scraped from the lesion. The result was positive for fungi and the patient was properly treated. Another patient, one of the sisters-in-law of the index case, presented painful nodules in the upper limbs, without complaints of numbness or loss of sensation, and the test with esthesiometer of the palms of the hands and soles of the feet also showed no change. Biopsy of one of the nodules was performed for histopathological

behavioral and cultural aspects of the family, with the following data being evidenced: (a) the names and ages of all family members; (b) exact dates of births, marriages, separations, divorces, deaths, abortions and other significant events; (c) dated indications of activities, occupations, illnesses, places of residence and changes in vital development; and (d) relationships between family members. Such data denote the structure of the family and can be configured as indications of their functioning and dynamics (DITTERICH et al, 2009)

From the data collected in the genogram, it was found that the patient identified as 01-SRA did not have a BCG scar. It is known that the BCG vaccine, despite not being specific for leprosy, is indicated for all household contacts without clinical signs of disease (BRASIL, 2008). Importantly, 31.5% of the contacts examined did not have any BCG scars. It is known that the application of BCG can induce an immune response of the cellular type that promotes the increase of the organism's resistance to *M. leprae* and therefore constitutes an important measure to control leprosy (MUIR, 1947). The genogram has been used by the Family Health Strategy program (ESF), in a simplified way, in the characterization and registration of family groups, with a view to promoting community health and disease prevention. This has allowed a better understanding of the development of the main diseases that affect family members, facilitating the therapeutic plan (ASEN; TOMSON, 1997; FILIZOLA et al., 2004). According to Fine et al. (1997), household contacts of index cases classified as multibacillary (MB) may have a greater chance of developing clinical signs of the disease. Considering that in our study the index case, represented by a patient with multibacillary leprosy, treatment-naïve, it was to be expected that some of the contacts had

clinical suspicion of the disease.

CONCLUSION

The construction of the genogram allowed a better understanding of family relationships in the studied group, which will certainly serve as a model for follow-up/monitoring of contacts examined in the public health service. It was possible to identify that the intra-household contact CI4, daughter of the patient (index case) and residing in the same household, did not have a vaccine scar. And specifically in this case, this individual has a 3-6 times greater risk of developing the disease in relation to the population. There is great interest on the part of the research group in continuing this study, especially with regard to expanding the number of index cases and families to be investigated. The data generated from the genogram of families will help in the follow-up/monitoring of members, especially those with clinical suspicion, for the early diagnosis and treatment of leprosy. In addition, the study may favor the interruption of the disease transmission chain, insofar as the contacts, when examined, can be included in a chemoprophylaxis regimen as a future approach for the effective control of leprosy.

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