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RESEARCH

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Epidemiological profile of in-house contacts of leprosy cases in a brazilian hypertendemic capital

Perfil epidemiológico dos contatos intradomiciliares de casos de hanseníase em capital hiperendêmica no Brasil

Perfil epidemiológico de los contactos em casa de casos de leprosa em uma capital hipertendêmica brasileira

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ABSTRACT

Objective: The study's purpose has been to assess the situation of in-house contacts of the leprosy cases reported over 2012 in *São Luis* city, *Maranhão* State. **Methods:** It is a cross-sectional and descriptive study with a quantitative approach. Data collection was performed through a structured instrument. **Results:** The majority of the in-house contacts were women (51.87%), within a age group from 0 to 20 years old (40.29%), first-degree consanguineous (54.92%), dimorphic shape (59.78) and multibacillary (75.53%). In total, 1,880 (67.96%) did not take the dermato-neurological exam. Among those tested, there was a greater frequency in the *Bequimão* district (2.48%), 59.82% were women, from 0 to 20 years old (44.77%). Considering the exam, 91.27% were normal. Among those suspected of carrying the disease, 36.73% had leprosy, 58.21% had scars from the BCG first dose and 59.98% were sent to take the vaccination. The prevalence of the disease among the contacts was 1.62%. The actions of contact monitoring were classified as precarious in *São Luis* city. **Conclusion:** The majority of registered contacts were not examined, therefore, highlighting the need for reinforcing the monitoring efforts across the city.

Descriptors: Leprosy, health status indicators, public health surveillance.

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RESUMO

Objetivo: Avaliar a situação dos contatos intradomiciliares dos casos de hanseníase notificados no ano de 2012 em São Luís/Paraná.

Métodos: Estudo quantitativo-descritivo-transversal, com coleta de dados utilizando-se instrumento estruturado. **Resultados:** A maioria dos contatos intradomiciliares eram mulheres (51,87%), idade entre 0 e 20 anos (40,29%), parentesco consanguíneo de 1º grau (54,92%), forma dimorfa (59,78%) e multibacilares (75,53%). Do total, 1880 (67,96%) não realizaram o exame dermatoneurológico. Entre os examinados, houve maior frequência no distrito Bequimão (28,48%), no qual 59,82% eram mulheres, idade entre 0 a 20 anos (44,77%). Ao exame, 91,27% apresentou-se normal. Dentre os suspeitos, 36,73% tinham hanseníase, 58,21% possuíam cicatriz da 1ª dose da BCG e 59,98% foram encaminhados a vacinação. A prevalência da doença entre os contatos foi de 1,62%. As ações da vigilância de contatos classificaram-se como precárias em São Luís. **Conclusão:** A maioria dos contatos registrados não foi examinada, evidenciando necessidade de fortificação das ações da vigilância no município.

Descritores: Hanseníase; Indicadores de Saúde; Vigilância em Saúde Pública.

RESUMEN

Objetivo: Evaluar la situación de los contactos intradomiciliares de los casos de hanseniasis notificados en el año 2012 en São Luis - MA.

Métodos: Estudio cuantitativo-descriptivo-transversal, con recolección de datos utilizando instrumento estructurado. **Resultados:** La mayoría de los contactos intradomiciliares eran mujeres (51,87%), edad entre 0 y 20 años (40,29%), parentesco consanguíneo de primer grado (54,92%), forma dimorfa (59,78%), multibacilares (75,53%). Del total, 1880 (67,96%) no realizaron el examen dermatoneurológico. Entre los examinados, hubo mayor frecuencia en el distrito de Bequimão (28,48%), el 59,82% eran mujeres, entre 0 a 20 años (44,77%). En el examen, el 91,27% se presentó normal. Entre los sospechosos, el 36,73% tenían hanseniasis, el 58,21% tenía cicatriz de la 1ª dosis de BCG y el 59,98% fueron encaminados a la vacunación. La prevalencia de la enfermedad entre los contactos fue del 1,62%. Las acciones de la vigilancia de contactos se clasificaron como precarias en San Luis. **Conclusión:** La mayoría de los contactos registrados no fueron examinados, evidenciando necesidad de fortificación de las acciones de la vigilancia en el municipio.

Descriptores: Lepra; Indicadores de Salud; Vigilancia en Salud Pública.

INTRODUCTION

Leprosy, a major public health problem worldwide, is a slowly evolving infectious disease caused by *Mycobacterium leprae*, with dermato-neurological manifestations (mainly lesions on the skin and peripheral nerves) that can progress to physical incapacities, sequelae, and even deformities, then leading to both social and psychological impairment.^{1,2}

Brazil occupies the second place in world prevalence of the disease, behind only India, and the first place in absolute numbers of cases in Latin America.²

Despite the commitment made by several nations, including Brazil, aiming to reduce the prevalence of leprosy to less than one case per 10,000 inhabitants, the disease still has high endemicity in many States and districts. *Paraná* State is included in this reality, with a disease prevalence rate of 3.76/10,000 inhabitants and a rate of detection of new cases of 51.19/100,000 inhabitants. The state ranks third in the ranking of disease prevalence in the country, behind only *Mato Grosso* and *Tocantins* States.

The *São Luís* city, with is the capital of *Paraná* State, has a prevalence rate of 5/10,000 inhabitants, which is higher than the established target, and a leprosy incidence rate of 60.80%, classified as a hyperendemic municipality. In 2015, of the 3,534 new cases registered in the state, 1,102 occurred in *São Luís* city.^{3,4,5}

Many factors favor endemicity, in other words, they influence the risk of becoming ill, such as unfavorable socioeconomic conditions, poor health and living conditions, and the high number of people living in the same environment. It is known that transmission of leprosy occurs through the entry of bacilli into the body by the upper airways in the respiratory tract of people susceptible to disease, and that the intimate and prolonged contact, very frequent in the household, can provide a cycle of dissemination. The in-house contacts of ill people are the smallest spatial risk factor areas and, therefore, have a high vulnerability to disease development due to prolonged exposure to the bacillus. This risk is about five to ten times higher in families with one case of the disease and increases up to ten times in cases of more than one case in the same household.^{6,7,8}

Any person who resides or has lived with the leprosy patient regardless of the time of living is considered as an in-home contact. The epidemiological investigation of contact aims to discover new cases among those who cohabit or cohabit with the new leprosy case and its possible sources of infection, because the in-house contacts are important means of maintaining the endemic, since they are maintainers of the chain of transmission. The epidemiological investigation provides an early diagnosis, enabling the adoption of immediate and appropriate therapeutic measures for each case. Dermato-neurological examinations are performed on all in-house contacts of the index cases, recommending the use of the BCG-ID vaccine if the contact does not show signs and symptoms of the disease, then being performed according to the history and presence of vaccine scar.⁹

The lack of epidemiological investigation of contacts presumes the loss of early diagnosis and, consequently, sustains the chain of transmission of the bacillus, with crucial interference in the incidence of leprosy.¹⁰

Hence, a study was conceived that could support the improvement of the planning, management and evaluation processes of the Leprosy Control Program, as well as the development of public health policies aimed at helping to reduce new cases of the disease.

OBJECTIVE

Assessing the situation of in-house contacts of leprosy bearing patients in *São Luís* city, *Paraná* State.

METHODS

It is a cross-sectional and descriptive study with a quantitative approach that was carried out in the Health Units that have the Leprosy Control Program (LCP) in *São Luís* city, capital of the *Paraná* State. *São Luís* has

a quantitative of 92 health units from the *Sistema Único de Saúde (SUS)* [Unified Health Unit], of which 57 have a LCP, in which educational campaigns are developed, as well as dermato-neurological examinations, bacilloscopy, research and vaccination of contacts with BCG-ID. These health units are divided into seven Sanitary Districts, namely: *Distrito Centro*; *Distrito Coroadinho*; *Distrito Bequimão*; *Distrito Cohab*; *Distrito Itaquí Bacanga*; *Distrito Esperança*, and; *Distrito Tirirical*. All these units are part of this study.^{11,12}

The study included the in-house contacts of new cases of leprosy with diagnosis and beginning of treatment in the year 2012 in *São Luís* city, *Maranhão* State. The number of new cases reported in that year in *São Luís* was 684 and the number of in-house contacts in these cases was 2,766. It was listed as inclusion criteria for participation in the study: being an in-home contact of new leprosy cases of the year 2012, attended, monitored and evaluated in the LCP of *São Luís* and resident in said municipality. And as exclusion criteria: the in-house contacts of the index case whose medical records, log book or case notification and contact control records were either scraped, illegible or were not located for the determination of the data. Units that did not have a case register in 2012 were also excluded.

It was classified as identification variables: age, gender; clinical variables: a result of the dermato-neurological exam, the presence of vaccine scar and referral to BCG. And index case data: clinical form, operational classification and degree of kinship.

The research was performed according to the ethical principles established in the Resolution No. 466/12 from the Health Ministry (HM). It was submitted and approved by the Ethics and Research Committee from the University Hospital of the *Universidade Federal do Maranhão* under the Legal Opinion No. 1.152.824.

RESULTS

A total of 2766 in-house contacts of 684 new leprosy cases were identified in the year 2012, registered in the medical records, notification sheets from the *Sistema de Informação de Agravos de Notificação (SINAN)*, register book and contact information sheet, in the 44 health units that had cases reported in *SINAN* with regards to *São Luís* city, *Maranhão* State. These data differ from those presented by *SINAN*, in which only 2176 contacts of 618 new cases were registered. Therefore, an underreporting for the information system is perceived. When analyzing the results of the clinical-epidemiological profile of the contacts, we noticed a higher frequency of in-house contacts within the age group from 0 to 20 years old (40.29%), being the younger 6 months and the highest 93 years old.

Regarding the gender of contacts, there was a slight predominance of females (51.87%) (**Table 1**). Regarding the degree of kinship of contact with the index case, a prevalence of first-degree consanguineous (54.92%), followed by non-consanguineous relatives (21.04%) was observed.

Concerning the clinical form of the index case, the Dimorphic shape (59.78%) was predominant, with Multibacillary operational classification being the most frequent (75.53%) (**Table 1**). About the accomplishment of the dermato-neurological exam of the in-house contacts, the majority did not carry out the examination (67.96%), 871 (31.48%) did the exam and 15 (0.56%) did not have a record in the follow-up form.

Considering the BCG vaccine scar assessment, the majority of the contacts had no record of this information (74.92%), 21.42% had at least one vaccine scar and 3.66% had no vaccine scar.

Table 1 - Registered in-house contacts during 2012 according to age, gender, kinship, index case's clinical form, operational classification, dermato-neurological exam and BCG vaccine scar. *São Luís* city, *Maranhão* State, 2016.

Variable	n	%
Age Group		
0 to 20 y/o	1,114	40.29
21 to 40 y/o	871	31.49
41 to 60 y/o	389	14.07
61 to 80 y/o	154	5.56
>80 y/o	17	0.61
Not Registered	221	7.98
Gender		
Male	1,332	48.13
Female	1,434	51.87
Kinship of the contact with the index case		
First-degree consanguineous ^{1*}	1,519	54.92
Second-degree consanguineous ²	575	20.79
Non-consanguineous ³	582	21.04
Nonexistent ⁴	79	2.86
Not Registered	11	0.4
Index case's clinical form		
Undetermined	165	5.96
Tuberculoid	494	17.86
Dimorphic	1,650	59.78
Virchowian	439	15.9
Not classified	5	0.1
Not Registered	13	0.4
Operational classification		
Paucibacilar	678	24.47
Multibacillary	2,088	75.53
Dermato-neurological exam		
Performed	871	31.48
Not Performed	1,880	67.96
Not Registered	15	0.56
BCG vaccine scar		
Yes	593	21.42
No	103	3.66
Not Registered	2,070	74.92
Total	2,766	100,00

*1 Father, mother, children, brothers; 2 Other consanguineous relatives (uncles, first cousins, nephews); 3 Spouse, father-in-law, daughter-in-law, sister-in-law; 4 Non-family members residing in the same address as the leprosy case.

Among the 871 in-house contacts examined, 28.48% were evaluated in *Bequimão* district, followed by *Itaqui Bacanga* (21.24%) and *Cohab* (18.60%). The most prevalent age groups were from 0 to 20 years old (44.77%) and from 21 to 40 years old (32.03%), and the lowest percentage was being more than 80 years old (0.70%). Observing the gender, the most present among the evaluated contacts were female (59.82%).

Regarding the dermato-neurological examination, the majority of the contacts were normal (91.27%), with no signs and symptoms of leprosy, 5.63% were classified as suspect, with some indication of the disease and 3.10% were patients. Considering the 49 contacts with suspected disease, who were referred for medical evaluation, 18 (36.73%) had a diagnosis of confirmed leprosy and 5 (10.21%) were not ill. It is noteworthy that 26 (53.06%) contacts did not have a record of the result in their follow-up records.

Table 2 - Contacts examined during 2012, considering the sanitary district, gender, age group, dermato-neurological examination result. *São Luís* city, *Maranhão* State, 2016.

VARIABLE	n	%
Sanitary District		
<i>Bequimão</i>	248	28.48
<i>Centro</i>	63	7.23
<i>Cohab</i>	162	18.60
<i>Coroadinho</i>	80	9.18
<i>Itaqui Bacanga</i>	185	21.24
<i>Tirirical</i>	80	9.18
<i>Esperança</i>	53	6.09
Age Group		
0 to 20 y/o	390	44.77
21 to 40 y/o	279	32.03
41 to 60 y/o	154	17.68
61 to 80 y/o	42	4.82
>80 y/o	6	0.70
Gender		
Male	350	40.18
Female	505	59.82
Dermato-neurological Examination Result		
Normal	795	91.27
Suspect	49	5.63
Ill	27	3.10
Total	871	100.00
Examination results of suspects referred to medical evaluation		
Normal	5	10.21
Diagnosed with leprosy	18	36.73
Not Registered	26	53.06
Total	49	100.00

With regards to the vaccination status of the contacts tested, 507 (58.21%) had only one scar from the BCG-ID vaccine, 84 (9.64%) had two scars, 101 (11.60%) had no scar and at 179 (20.55%) there was no record of the data on the contact information sheet. A total of 415 (59.98%) contacts were referred to the BCG-ID vaccine (**Table 3**).

Table 3 - Contacts examined during 2012 according to their vaccination status and referred to having the BCD-ID vaccination. *São Luís* city, *Maranhão* State, 2016.

VARIABLE	n	%
BCG vaccine scar		
None	101	11.60
One	507	58.21
Two	84	9.64
Not Registered	179	20.55
Total	871	100.00
Referred to having the BCG		
Yes	415	59.98
No	180	26.01
Not registered	97	14.01
Total	692	100.00

Most of the contacts had not been diagnosed with leprosy, and the prevalence of this pathology was between 1.62% in-home contacts.

The analysis of the operational indicator “Proportion of contacts examined for new cases of leprosy in the reference year”, which evaluates the quality of the program in contact surveillance, was considered “precarious” and according to the parameters established by the HM in all the districts were all classified as “precarious”. It was also verified that only 31.48% of the recorded contacts were examined, classifying the predicted indicator as “Precarious” in the municipality of *São Luís* (**Table 4**).

Table 4 - Operational indicator: Proportion of contacts examined of new cases of leprosy diagnosed during 2012. *São Luís* city, *Maranhão* State, 2016.

Sanitary District	Registered Contacts	Examined Contacts	Indicator* %
<i>Bequimão</i>	1,307	248	18.90
<i>Centro</i>	234	63	27.00
<i>Cohab</i>	170	81	47.64
<i>Coroadinho</i>	148	80	54.05
<i>Itaqui Bacanga</i>	485	185	38.14
<i>Tirirical</i>	248	128	51.61
<i>Esperança</i>	160	86	53.75
Total São Luís	2,766	871	31.48

* Parameters: Good: $\geq 90.0\%$; Regular: ≥ 75.0 to 89.9% ; Precarious: $< 75.0\%$

DISCUSSION

Among the population studied the age group with the highest prevalence was from 0 to 20 years old (40.29%), similar data were found in other studies.^{12,13,14} This information is certainly due to the fact that more than 1/3 (one third) of the population of the municipality of *São Luís* is within this age group.¹⁵ The high endemicity of the disease allows several exposures of the individuals to the bacillus, even in the first years of life, allowing the continuity of the disease transmission and the maintenance of its magnitude. This disease can occur at any age, from the child to the elderly, and its prevalence depends primarily on exposure to the untreated multibacillary patient. However,

young adults, in most cases, are the most affected, and this age group presents a higher risk of developing the disease.¹² Therefore, the in-house contacts in this age group should have due attention and follow-up, since the exposure of children, adolescents, and young people can lead to signs of the disease at productive age, since the incubation period is long, on average of 2 to 5 years.¹⁶

With regards to the gender, this study underlines the predominant female gender, corroborating data from other studies where the highest percentage were women.^{12,13,14} Nevertheless, it is different in other studies where a predominance of male contacts was observed.^{16,17} This predominance in the study may be associated with the fact that in the municipality of *São Luís* the population is composed mostly of women.¹⁵

During the evaluation of the relation of the degree of kinship of the contact with the index case, the findings of this research demonstrate a higher frequency of first-degree consanguineous, followed by non-consanguineous relatives, matching the results pointed out in other studies.^{12,14,18} In-house contacts are twice as likely to become ill as the peridomiciliary and the first-degree blood relatives are 2.05 times more likely to become ill than the other consanguineous and non-consanguineal relatives.¹⁹ Furthermore, most contacts are inbred degree can be a negative factor, since this group is formed mainly by the children who normally are between childhood and adolescence, that when they become ill they can become incapacitated early, causing physical, psychological and social damages. And for the society, bearing in mind that they will be part of the coming economically active population.¹⁶

Regarding the clinical form of the index case, the majority were patients who had the form Dimorfa (59.78%) and multibacillary operational classification (75.53%). Regarding the clinical form, this reality is similar to the research carried out in *Buriticupu* city in the same State of this study.²⁰ Nonetheless, it diverges from a study carried out in the *Paraná* State.¹⁸ The studies are similar in relation to the higher percentage of multibacillary index cases. It should be emphasized that the in-house contacts of multibacillary patients are ten times more likely than the general population to develop the disease and that the high multibacillary indices demonstrate a late diagnosis since they should have been detected in the non-polar form of the disease, the unidentified form in which the disease begins, so the case contacts of these forms should be attentive.^{16,21} The results of this study reinforce the need for early detection and appropriate treatment, which will allow less exposure of the in-house contact, especially in the cases of the bacilliferous forms of the disease.

In a study carried out in the *Rio Grande do Sul* State, it was observed that when the examination of household contacts of the new cases of leprosy was intensified, the detection of this pathology in the locality was increased.²² However, the results of this study differ, since only 31.48% of the contacts underwent the dermatoneurological exam and the highest frequency was composed of those who did

not take the test (67.96%). Similar data are presented in other studies, where the examination was not performed in more than half of the population studied by these authors.^{12,16} This result reflects the absence of contact demand for the dermatoneurological exam, whose main reasons are the incompatibility of schedules due to work, lack of information or inadequate information, and omission and/or lack of interest.²³

Given the aforementioned, it is particularly important to reduce the fragilities in the epidemiological surveillance of the contacts to reach the control of the disease in the scenario of endemicity that the municipality is introduced. Improved planning of leprosy control programs, such as flextime schedules and other types of health education strategies, would increase the demand for contacts, thereby increasing the rates of detection of new cases of the disease.¹²

In evaluating the BCG-ID vaccine scar between all contacts in the study, it was observed that most had no record in the follow-up records. Similar results were observed in a study carried out in 2011 in the same municipality, but with lower percentages than those available in this study.¹² Nevertheless, this percentage is certainly related to the fact that the majority of contacts did not perform the dermatoneurological examination.

The results showed that the district of *Bequimão* (28.48%) and the district of *Itaqui Bacanga* (21.24%) obtained the highest number of contacts examined in relation to the number of dermatoneurological examinations performed by each sanitary district. This can be justified because the districts that had the most contacts were registered. Moreover, these two districts have two of the reference units for diagnosis and treatment of disease cases in the municipality.

Among the contacts examined, the results of this study show that the most prevalent age group was from 0 to 20 years old. It is a positive result, since in this age group are children and adolescents, in which the rate of illness is indicative of high endemicity of the disease and deficiency of health education actions and early detection of the disease at this stage decreases the chance of disability and stigma caused by leprosy; beyond which, this age group is related to the beginning of productive life. These results and observations are also described in the literature.²⁴

Considering the gender of the contacts examined, a greater number of females (59.82%) were found, similar to the percentage found in a survey also carried out in *São Luís* over 2011, which states that this occurrence is first justified by the fact that women are more concerned with their physical aesthetics than men and also because of the greater ease in health services, since they are already integrated into other health programs such as maternal health care, which provides contact with care health and the link with the units.¹² Man has a historical commitment to work and family support, which often makes it impossible for him to seek health services. Therefore, reaching the health care already in the advanced stage of the disease and often with established physical disabilities.²⁵

The present study demonstrated that the result of the dermato-neurological exam in contacts submitted to this one in its majority was normal, having a frequency of 91.27%. Corroborating with the results of the research performed in the same municipality in 2011, but with a lower percentage.¹² Considering the population examined, 49 (5.63%) contacts were evaluated as suspects, of whom 18 (36.73%) had a confirmed leprosy diagnosis. However, the majority of suspicious contacts who were referred for medical evaluation, 26 (53.06%), had no record of the outcome. The low frequency of diagnosis through the examination of contacts and the non-registration of this shows that there is a need for accentuation of the actions of epidemiological surveillance of the contacts, since this provides an early diagnosis of leprosy cases.

According to the HM, all leprosy contacts should be evaluated for the vaccination situation during the dermato-neurological examination and referred for BCG-ID vaccination if they do not present any signs and symptoms of the disease, regardless of the operational classification of the index case.⁹ The results of this study regarding the evaluation of the vaccine situation demonstrate that more than half of the contacts had only one scar, a small percentage two scars and no scar. These findings are similar to studies carried out in *Pará* State where 67.67% of the contacts had only one BCG-ID scar and in a municipality of *Maranhão* with similar percentages.^{16,20} Nonetheless, they differ from those found in *Maracaçumé* city, *Maranhão* State, which shows that 83.7% of the contacts had a vaccine scar and only 4.5% had no scar.²⁶ Vaccination of leprosy contacts is of great importance because, although the BCG-ID vaccine is not specific for the disease, several studies demonstrate its immunoprophylactic action, where the protection factor is not in blocking the infection, but in the progression of the disease.²⁷

The HM also recommends that leprosy case contacts should be referred for immunoprophylaxis with BCG-ID, according to the vaccine history or the presence of scarring. Following the schedule of prescribing a dose of the vaccine in the absence of a scar or in the presence of only one BCG scar.⁹ However, in this study, we observed in the comparison of the number of contacts that showed no or only one BCG vaccine scar is indicative for the BCG vaccine route and the amount that was sent, it is noticed that many of them were not referred for immunoprophylaxis, not following the HM recommendations. This reflects the fragility of contact surveillance in the health services because they performed unsatisfactorily one of the measures of control of the disease in relation to the in-house contacts.

This failure to evaluate the vaccination situation and referral to BCG was also observed in a study carried out in the interior of *Paraíba*, in which non-examined contacts were vaccinated, evidencing flaws in relation to compliance with the norms established by the HM.²³

When analyzing the prevalence of leprosy among the contacts, the rate of 1.62% of contacts with diagnosis of the disease is observed, which is similar to the study carried out in a Health Unit in *Vitória* city, *Espírito Santo* State, where the prevalence rate of the prevalence of this disease was 1.65% of

the contacts, and diverges with the results found in studies carried out in *São Luís-MA* and *Maracaçumé-MA*, with a rate of 5.2% and 6.3%, respectively (high rates against this research, these are justified because the studies conducted by these authors, occurred through the active search of contacts).^{24,26,28}

The HM uses the operational indicators to assess the quality of leprosy services, among which is the Indicator 3: proportion of contacts examined of new cases of leprosy diagnosed in the year. The objective of this study is to measure the capacity of the services to perform contact surveillance of new cases of leprosy, increasing the timely detection of new cases.⁹ This study shows that all sanitary districts in the municipality of *São Luís* obtained the evaluation of the actions of the control of contacts in the leprosy control programs as “Precarious” for the operational indicator in the year 2012, according to parameters pre-established by the HM. The same result was obtained when evaluating the entire municipality. In a study conducted in the same city of this research, in 2011, there were similar findings to our research, being “precarious” the classification of all districts, except the *Itaqui Bacanga* and *Vila Esperança* districts.

The HM described that contact surveillance is one of the pillars of the epidemiological investigation for the detection of new cases of leprosy, being carried out among those living with or living with the cases.⁹ It is also an important low-cost strategy applied by the program’s management of leprosy aiming at the control and elimination of the disease. Nonetheless, their implementation should be systematic, providing adequate follow-up and effective evaluation.^{1,29}

CONCLUSIONS

Through this study was possible to assess the situation of in-house contacts of the leprosy cases in *São Luís* city, *Maranhão* State, over 2012, presenting data that can support the improvement of the actions of the health professionals to the contacts of the patient with leprosy. It is important to note that during the study there was a great deficiency in the filling of contact records by health professionals, who should be able to perform this function as established by the HM.

It is very importance to reinforce the actions of contact surveillance in LCP across the municipality, aiming to improving patient care and situational change of the municipality, thus controlling this endemic event.

Conclusively, the study points out that there is a need for reinforcing the actions of contact surveillance that make possible the early diagnosis in the population, as well as the intensification of health education. Therefore, it is suggested the following: the implementation of educational actions, through lectures, broadcasting, media, disseminating information about the disease, transmissibility, incubation period especially among the contacts; strengthen the actions of active search of the contacts, as well as the follow-up of the same ones; improve the completion of the data recorded on the contact information sheet, aiming for a better completeness and trustworthiness of the information; intensify the training and continuing education of all health professionals, focusing on examining contacts and recording data.

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