



PREVENTIVE ACTIONS MONITORING AND CONTROL OF TUBERCULOSIS IN HEALTH BASIC UNITS

MONITORAMENTO DE AÇÕES DE PREVENÇÃO E CONTROLE DA TUBERCULOSE EM UNIDADES BÁSICAS DE SAÚDE

EL SEGUIMIENTO DE LA PREVENCIÓN Y CONTROL DE LA TUBERCULOSIS EN UNIDADES BÁSICAS DE SALUD

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ABSTRACT

Objective: to evaluate the implementation of prevention and control of tuberculosis activities. **Method:** operations research descriptive quantitative approach, developed in five Basic Health Units in Belém/PA, and sampling Administrative District. For data analysis we used operational indicators recommended by the Ministry of Health, through the Excel Software. The results were organized, presented in figures and analyzed using descriptive statistics. **Results:** it was found that the units have good performance in tuberculosis control examining, on average, 80% of respiratory symptoms and discovering more than 70% of the cases. Cure and dropout rates show the average values around 80% and 10% respectively. **Conclusion:** this study reinforces the importance of knowing the reality of services, analyze it together with the professionals, presenting the results and forms of intervention. **Descriptors:** Monitoring; Health Education; Tuberculosis.

RESUMO

Objetivo: avaliar a execução das atividades de controle e prevenção da tuberculose. **Método:** pesquisa operacional de abordagem quantitativa descritiva, desenvolvida em cinco Unidades Básicas de Saúde de Belém/PA, como amostragem por Distrito Administrativo. Para a análise dos dados utilizaram-se indicadores operacionais recomendados pelo Ministério da Saúde, por meio do *Software Excel*. Os resultados foram organizados, apresentados em figuras e analisados pela estatística descritiva. **Resultados:** constatou-se que as unidades possuem bom desempenho no controle da tuberculose examinando, em média, 80% de sintomáticos respiratórios e descobrindo mais de 70% dos casos previstos. Os índices de cura e abandono mostram valores médios em torno de 80% e 10% respectivamente. **Conclusão:** este estudo reforça a importância em conhecer a realidade dos serviços, analisá-la em conjunto com os profissionais, apresentando os resultados e as formas de intervenção. **Descritores:** Monitoramento; Educação em Saúde; Tuberculose.

RESUMEN

Objetivo: evaluar la implementación de la prevención y control de las actividades contra la tuberculosis. **Método:** investigación de Operaciones enfoque cuantitativo descriptivo, desarrollado en cinco Unidades Básicas de Salud en Belém/PA, y el muestreo de Distrito Administrativo. Para el análisis de datos se utilizó indicadores operacionales recomendados por el Ministerio de Salud, a través del software Excel. Se organizaron los resultados, presentados en las figuras y se analizaron utilizando estadística descriptiva. **Resultados:** se encontró que las unidades tienen un buen rendimiento en el control de la tuberculosis en el examen, en promedio, el 80% de los síntomas respiratorios y el descubrimiento de más del 70% de los casos. curan y deserción muestran los valores promedio de alrededor de 80% y 10% respectivamente. **Conclusión:** este estudio refuerza la importancia de conocer la realidad de los servicios, analizar junto con los profesionales, la presentación de los resultados y las formas de intervención. **Descritores:** Vigilancia; Educación para la Salud; La Tuberculosis.

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INTRODUCTION

In Brazil, the Tuberculosis National Control (CNTB), the Ministry of Health (MoH), is recognized as one of the most efficient in the world and focusing on decentralization of control measures for primary care, increasing the population's access general and the most vulnerable or at increased risk of contracting tuberculosis (TB), compared to the general population due to health and life they are exposed to, such as indigenous people have 03 times the risk, people deprived of their liberty, 28 times and people on the street, 44 times because of the difficulty of access to health services and the specific conditions of life. In addition to people living with HIV and AIDS that has 35 times more risk¹. Control of the disease is based on case finding, early diagnosis and proper treatment to cure, in order to break the chain of transmission and prevent possible illnesses².

Of the 101.900 new cases of TB reported in countries in South America, 81% (83.000) corresponded to Brazil, which ranks first in the Americas and 16th place among the 22 countries with the largest TB burden in the world. For new estimated cases of TB represent nearly a third of all new cases in the Region³⁻⁴.

In the State of Pará this problem follows the national scene. The state ranks 1st in burden of disease in the North and 6th in incidence rate in the national context. In the year 2013 were reported 3.445 new cases with an incidence rate of 44,0/100.000 inhabitants. The capital, Belém, is responsible for approximately 40% of state affairs, in the national ranking lies in 3rd place among the capitals with the highest incidence and in 2013 notified 1.382 new cases, with incidence rate of 98,0/100.000⁵.

In 1993, the World Health Organization (WHO) declared TB a global emergency on the planet. According to WHO, compared to the current situation of the world disease, are highlighted as the main causes, the following factors: social inequalities, the advent of AIDS, the aging population, among others⁶. From this statement the WHO began to recommend the DOTS (Directly Observed Treatment, Short-course), as a global response to disease control. This strategy can be understood as a set of good practices for the control of the disease and has as one of its foundations Monitoring System and agile evaluation that enables monitoring of cases, from the notification to its closure⁷.

There are many challenges for health services achieve effective control of TB, including actions to ensure early case detection and effective treatment, particularly of smear positive cases. Ensure cure these patients, which are the sources of infection is from an epidemiological point of view, one of the most important actions for the prevention and control of disease in a community. To achieve this favorable scenario imposes the need to couple the monitoring already running, new education strategies and recommended actions aimed at improving customer service quality, essential pillars to definitively control TB in Brazil⁸.

Understanding the importance of monitoring to the success of TB control actions at any level defined as objective of this study:

- Evaluate the implementation of control activities and prevention of TB in the city of Belém, prioritized by the Ministry of Health for TB control.

METHOD

Operational research, with a descriptive and quantitative approach. The study was conducted in five (05) Basic Health Units in the city of Bethlehem, as sampling Administrative District. Bethlehem is divided into 08 administrative districts, namely: Administrative District of Mosqueiro (WE), Administrative District of Bethlehem (DABEL) Administrative District Trunking (DAENT) Administrative District of Sacramento (DASAC) Administrative District Guama (DAGUA), Administrative District Bengui (DABEN) Administrative District Icoaraci (DAICO) and Administrative District of Outeiro (DAOUT).

The Municipal Health Department organizes the municipal health actions based on this design, and this organization joins the DAICO and DAOUT districts. So for the health organization are seven districts, among them, the administrative districts WE were excluded for not having significant sample of TB cases and DABEL not have basic health units in their territory.

The sample was comprised of five Basic Health Units, namely: UBS Marambaia (DAENT), UBS Telegraph (DASAC), UBS Jurunas (DAGUA), UBS Tapanã (DABEN) and UBS Icoaraci (DAICO/DAOUT). For those units that were part of the study was considered as inclusion criteria have high TB incidence rates and have greater representation in the districts of which they are part.

Data collection was carried out in the sectors of the unit where they develop TB

control actions, through interviews with five nurses and four nursing technicians responsible for the organization of service and care to patients. As part of the data collection, the Symptomatic registration books Respiratory, Patient Record Book and Treatment Control of Tuberculosis Cases and charts were analyzed. To obtain these data, as well as questions to the professionals we used the Guide to Monitoring in Basic Health Units which is the standard instrument for the State Program Coordination Tuberculosis Control of the State Department of Public Health of Pará after authorization by that institution.

The data collecting was operationalized as follows: visit to previously scheduled unit with the same manager and the professionals working in the TB sector. The implementation of the Guide with the professionals was made in the sector itself, to describe the whole dynamics of the work process developed there. Record books and records were analyzed to verify their completion according to the NTCP standards, completeness of the information and consistency of the same and get the data to evaluate the importance of indicators for the PCT. data were not used relating to the identification of patients or relatives in any circumstances. Identification Unit and the professional guide is a practice adopted routinely monitoring because later these provide guidance for the Municipal Coordination tuberculosis control in monitoring these services.

The analysis of the responses to the questions on the general data, the health service characteristics, discovery, treatment and follow-up cases, records, prevention, information and social mobilization for TB and the analysis of epidemiological and operational data was made through Software Excel, based on the selected theoretical framework on the subject. They were also applied to data collected NTCP operating indicators. The results were organized and presented in the form of text and figures discussion. All filled guides were used in this study and only after the conclusion of the study were referred, with results reports, TB coordinating the city of Bethlehem.

In compliance with the ethical aspects of the National Health Council Resolution 466/12 the project was submitted to the Research Ethics Committee of the Pará State University and approved under the Protocol 503.586, and the data collection began only after such approval and the appropriate institutional authorization. All participants were presented the Consent and Informed - Informed Consent

and Access Agreement the registration books and Medical Records (TALP) which was signed by the head of the sector.

RESULTS

◆ Characterization of Participants Units

All of the UBS that integrate the study have properly trained multidisciplinary staff in diagnostic actions and TB control to meet the patients, the nurses who effectively follow the patients in all months of treatment.

All UBS have laboratory where the examination of sputum smears for diagnosis and control. It is noteworthy that UBS Tapanã, in addition to smear performs sputum culture. The units do not have radiology service, when this examination is necessary patients are referred to Central Specialized tests.

The pharmaceutical assistance all units have pharmacist responsible for the storage and dispensing of TB drugs and the request in printed form as standard State Health Secretariat. The frequency of claims is quarterly.

Operating hours are integral (24) in 100% of the units and the PCT works in the morning and late in 60% of them, in other works only in the morning. As for the Family Health Strategy (FHS), 40% have connected to the service teams.

◆ Information Registry

All diagnosed cases are duly reported in TB Case Notification Form and sent weekly to the municipal coordination to record in the Notifiable Diseases Information System (SINAN). They are also registered in the Registration Book and Treatment Control of Tuberculosis Cases, standardized by the NTCP.

As the quality of the records, 80% have completeness of the Book of the fill. In just 01 Unit Book filling is disorganized and incomplete information, such as the lack of data on the clinical form of TB, smear monitoring, form of treatment, contact control record, test result anti- HIV status and date of completion of treatment.

By analyzing the quality on the records it was found that the notes at 100% of UBS do not include all the necessary information for the understanding of monitoring and control cases. In bacteriological monitoring of pulmonary cases BK + bacilloscopy is requested monthly in all units, considering that there is limited access to slit skin smear examination.

◆ Prevention Activities

Among the measures of prevention of TB, they highlight the BCG vaccination performed in 100% of the units as well as the treatment of latent TB infection (LTBI) also performed in all of them. This is especially recommended for people at increased risk of disease, particularly the contacts of patients with TB and people immunocompromised⁹. There is no record of standardized specific notification by the MS for cases of LTBI, but it is recommended that exists in the unit some form of registration for these cases. Among the units surveyed, 40% registration of cases of LTBI is done in specific books for this purpose, the other record in the charts. To institute the treatment of LTBI is necessary to exclude the possibility of active disease, so both should perform the RX and the tuberculin skin test (PT)⁹. This is performed in 60% of the Units, the others do not realize because no trained nurses and forward, as needed, to two other units as flow established by the PCT Municipal Coordination.

The monitoring of people with TB contacts is critical, as is the group most vulnerable to infection by intimate contact extended¹⁰. The registry location of this information varies between the units using temporary registration forms (40%), specific chips for this purpose (20%) or patient records (40%).

Information activities, education and communication (IEC) are part of the routine of the units, usually lectures held in the waiting room, generally carried out by academics from various institutions training of health that perform these units their curricular practices. Only one of the units does not perform the activities for lack of professionals.

◆ Outcome Indicators of Tuberculosis Control Actions

The NTCP establishes a list of indicators to monitor and evaluate the disease behavior of the population and the performance of health services for its control. In this context, were selected for the evaluation of units, seven indicators of results that are the most commonly used to assess serviços⁹. For analysis of all indicators was used as the baseline year of 2012 considering that at the time of data collection this year was meeting the information completed in all health services.

◆ Indicator I. Proportion examined respiratory symptoms among identified

As for the operational capacity to examine the respiratory symptoms (Figure 1) it was observed that the best results were UBS Tapanã that examined 97,1% (467) of 481 SR identified and UBS Jurunas that examined 92,4% (256) of 277 SR identified, followed by UBS Icoaraci that examined 80,4% (37) of the 46 SR identified. It is understood that there are the first two because the absolute quantity of symptoms to be examined is much higher in relation to UBS Icoaraci. These results demonstrate the organizational capacity of the units to make early diagnosis of cases through the SR exam. The analysis was impaired in 02 UBS due to damage in the record books that did not allow the analysis preventing the evaluation of the performance of these UBS in the context of others.

In 60% of UBS results of smear examination is obtained within 24 hours, in the other, due to operational difficulties or shortage of human resources, the average time that elapses between the collection of sputum and early treatment of pulmonary cases BK+ is around 72h, which extrapolates the NTCP parameters whose stipulated maximum period of 24h.¹¹

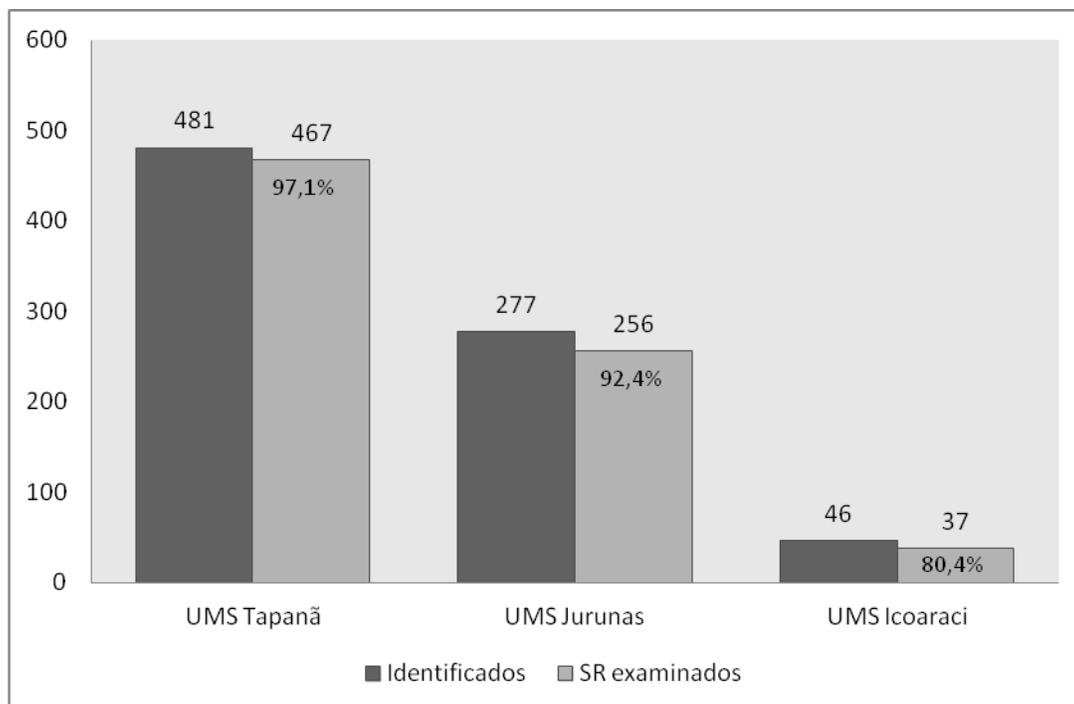


Figure 1. Proportion of respiratory symptoms examined among those identified by Municipal Health Unit - Belém, 2014.

◆ **Indicator II. Proportion of new cases of tuberculosis discovered among the scheduled**

target set by the NTP that is to find at least 70% of scheduled cases.

As for the discovery of new cases it was found that (Figure 2) 80% of UBS reached the

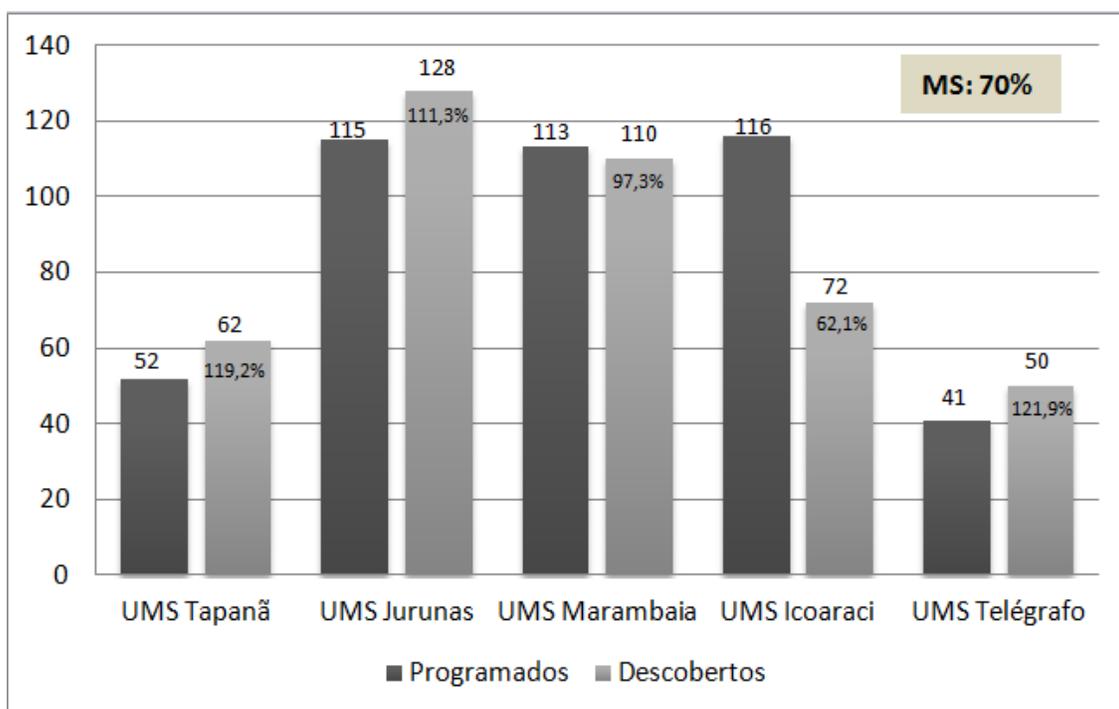


Figure 2. Proportion of new cases discovered among scheduled by Municipal Health Unit - Belém, 2014.

◆ **Indicator III. Proportion of TB cases tested for HIV**

Regarding the operational capacity of the units to examine new cases diagnosed with TB, through HIV testing, it was observed that UBS Tapanã examined 98,4% (61) of the 62 new cases, UBS Jurunas examined 79 7% (102)

among the 128 new cases, UBS Icoaraci examined 9,7% (7) from the 72 new cases and UBS Telegraph examined 74% (37) among the 50 new TB cases (figure 3). At UBS Marambaia, no analysis condition for loss of the Register and Treatment Control of year 2012 TB cases.

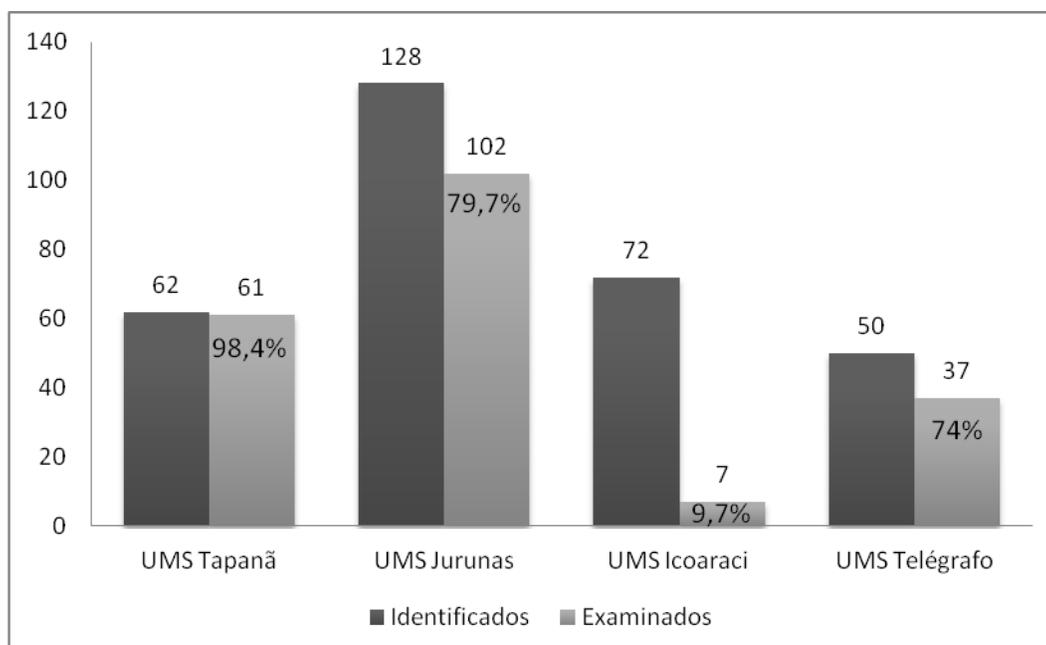


Figure 3. Proportion of tuberculosis cases examined for HIV among identified in Municipal Health Unit - Belém, 2014.

◆ Indicator IV. Proportion of coinfection TB/HIV

The coinfection shown in Figure 4 varies between 1.6% and 5.4% in the studied units. These percentages are found in the middle of

coinfection in the municipality of Bethlehem which is 8%, and are the cases identified in these units, which the highest number of cases, contributing to this percentage.⁵

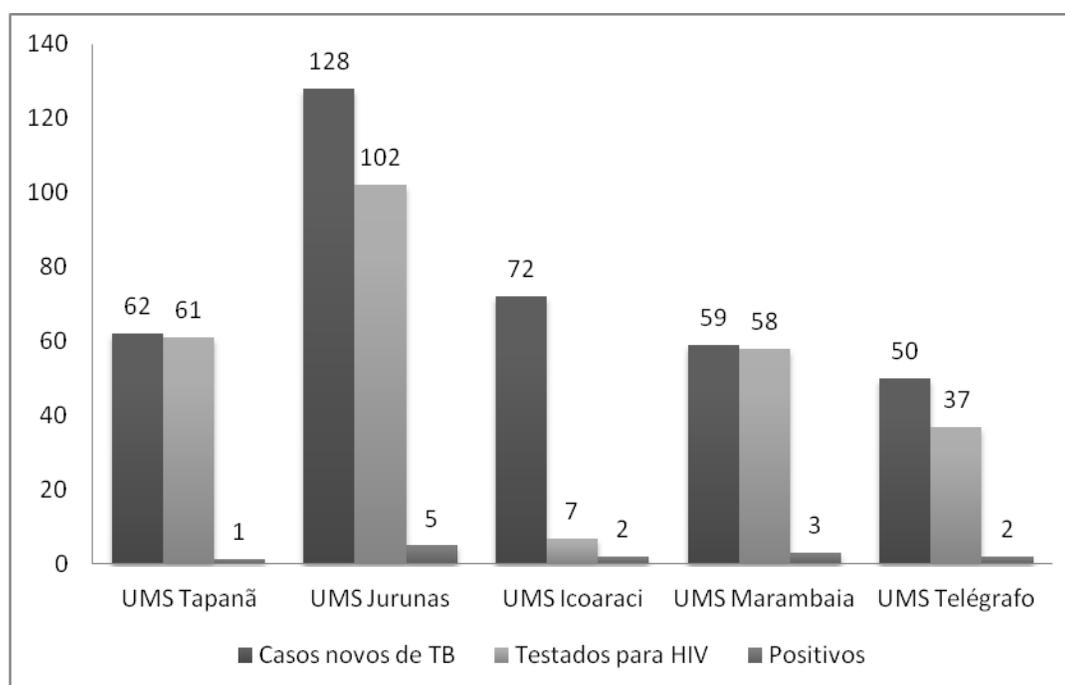


Figure 4. Positive ratio with respect to testing for HIV among new TB cases by Municipal Health Unit - Belém, 2014.

◆ Indicator V. Proportion of tuberculosis cases with directly observed treatment

The TDO is adopted by 100% of the units in which 80% is also adopted the self-administered treatment. In just 01 Unit 100% of cases are in ODD, given the recommended by the NTCP.

In all of them is operated 03 times a week to supervise the taking of medicines is done in their own health units, in the presence of the nurse and/or a nursing technician. For the record attendance are used copies of TDO Monitoring Sheet, standardized by the NTCP obeying the fill orientation. In 60% of UBS the

site is suitable for the taking of drugs, airy and with direct incidence of sunlight.

Regarding the occurrence of multiresistent TB cases (MDR-TB) in 80% cases were identified. For these the TDO is done jointly with the University Hospital João de Barros Barreto (HUJBB), tertiary for MDR-TB in the North, with monthly consultation in HUJBB and ODD performed daily at UBS, the difficulty of their control and high capacity infectious .

Indicator VI. Proportion of tuberculosis cases BK + and all forms of cured TDO

In the analysis of cure and dropout indicators (Figure 5) were analyzed by 04 UBS account cases Book of the loss in one. The cure rates ranged from 81,6% to 79,3% for BK+ is and from 82,2 to 80,8% for all forms.

◆ Indicator VII. Proportion of BK+ tuberculosis cases and all forms of ODD who abandoned treatment

As for treatment dropout rates (Figure 5) the results ranged from 13,3% to 10,5% between BK+ and from 11,3% to 10% in all forms.

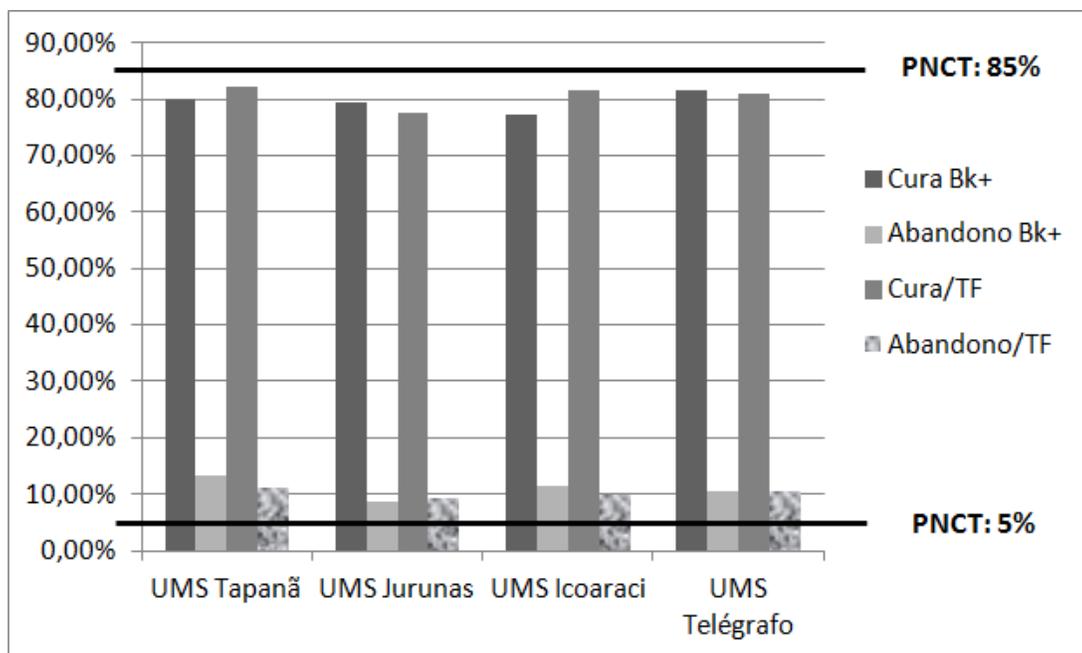


Figure 5. Cure rate and dropout among new TB cases in Directly Observed Treatment BK + and All forms by Municipal Health Unit - Belém, 2014.

DISCUSSION

To assess the unit's ability to identify respiratory symptoms, it would be necessary to know the enrolled population of these services to perform the calculation recommended by the NTCP, estimating that 1% of the population would be symptomatic respiratory⁹.

Whereas the units do not carry out the program of activities for not knowing its enrolled population, we chose to assess the unit's ability to examine the identified respiratory symptoms, since this activity is part of the routine of the surveyed units. Noteworthy is the Tapanã UBS for exceeding the limits of the unit and make an active search in the vicinity of schools.

All units have Book Symptomatic Respiratory Registry found in the nursing room, with the exception of UBS whose records in 2012 were not carried out. In 40% of the records are complete. In the other noted the absence of the results of 1st and 2nd sample of sputum examination, records mixed with other years and disorganization on the date of identification of the SR and test results.

The consolidation worksheet Symptomatic Respiratory Record Book is sent to the PCT quarterly municipal, with the exception of a unit responsible for the nurse argued that had not been driven about.

The proportion of new cases of TB discovered among the scheduled seeks to know the unit's ability to find the amount of cases set for the catchment area in order to meet one of the goals recommended by the MS which is to find at least 70% of cases programmed⁹. As mentioned earlier, the units do not schedule the actions for not knowing its enrolled population, thus to calculate this indicator worked with the increment calculation cases⁸ discovery. For this calculation, we sought the number of new cases discovered in the previous year (2011) and assigned 10%. The end result was the number of estimated cases to be discovered in 2012 by each Unit.

it appears that these UBS there is a concerted effort to early diagnosis, good physical infrastructure, qualified human resources and improving the identification indicator and examination of respiratory symptoms, which contributed to the strengthening of these searches and reach the goal. However, it is understood that this analysis is impaired, since the programming of cases may be being underestimated due to no knowledge of the enrolled population. This knowledge probably would bring the possibility of programming be closer to reality in each service would allow a more precise analysis of this indicator.

As the proportion of TB cases tested for HIV, HIV testing, the fast test mode, is

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offered to the patient with TB as routine in 100% of the units. Not always accepts the patient perform the test, because of that, although the supply is assured, it is not carried out in 100% of cases. The test is performed by the nurse professional, properly trained, with the exception of UBS, where after the reception held by the nurse, the patient is sent to the laboratory where HIV testing is conducted by the Biomedical. The result is immediate, which guarantees patients with TB early diagnosis of HIV infection and access to antiretroviral treatment, with appropriate referrals, according to each case; as the proportion of TB/HIV coinfection the Brazil shall, on average, 85.000 cases of TB annually, and approximately 8% are also infected HIV¹². The data showed that percentage within that national average.

It is understood that the health team must be committed to promote training in counseling of TB control staff, to talk with the patient about the possibility of association of both infections and the benefits of early diagnosis and treatment of HIV infection⁸.

For implementation of the TDO location must be identified and ordered the unit to the host patient and observation of drug outlet providing this place everything that is necessary for the fulfillment of action, ensuring drinking water and disposable cups¹³ unit. It was observed that there is a drive routinely lack of disposable cups for use by patients ODD which can hamper the performance of this action. Also the realization of TDO 3 times a week can facilitate the occurrence of treatment dropout. To deal with the challenges of managing a UBS there must be people with general and specific skills and abilities, especially when it comes to running a major program such as the TB control¹⁴.

It is a recommendation of the NTCP, is made an immediate search of the patient in the event of non-attendance, you should immediately try to find it by telephone or visit at home⁵. It is urgent to return to treatment to avoid abandonment¹⁵. The approach adopted by the units against the defaulting patient to take the TDO is to make telephone contact in the case of UBS who have the FHS teams another resource used is the home visit. In some areas it is difficult to search defaulters because they are often involved in crime.

As the proportion of TB cases BK + and all forms of cured TDO, the NTCP aims the TB bacillus transmission reduction in the

population, through early diagnosis actions and treatment of cases serving as the basis for achieving international targets agreed with the WHO by the Brazilian government. Among these the cure rate by at least 85% of cases and abandonment in percentages below 5%⁹.

For the proportion of TB cases BK and all forms of TDO the results presented for the cure rate were considered good, although they are still below the recommended by the NTCP. Show that cases ODD effectively heal in greater numbers than those in AA treatment.

In spite of the efforts of nurses and techniques that work in TB control, there are still cases of abandonment of treatment even for cases in TDO. In this case it is observed that, in absolute numbers, the values are not as significant as, are around 01-03 cases, but these have repercussions in rates exceeding the acceptable limit of 5%. It is noteworthy that even with the occurrence of abandonment in TDO, the AA in dropout rates present in much higher values, reaching up to three times those. The occurrence of abandonment cases is worrisome because it can contribute greatly to the development of resistance. Although the indices have shown, this evaluation, better results than in previous years efforts must to achieve the expected goals.

CONCLUSION

In this work proposal was able to evaluate the operational performance of the UBS in TB control through the chosen indicators, showing that the strategies recommended by the NTCP, when properly applied, can contribute to the efficiency and effectiveness of disease control with the possible impact positive epidemiological indicators.

Through the indicators showed the importance of applying the TDO in 100% of cases of TB and its impact on cure and dropout indicators, as well as the offer of HIV testing to increase the adoption of joint strategies two programs, contributing to the achievement of early diagnosis, treatment adherence, possibility of preventing illness by the adoption of LTBI.

Operational research has proved to be an essential component to meet the efficiency and effectiveness of health services. The results of this study reinforce the importance to allow academic researchers, together with professional services, know their reality, analyze it, present the results and the forms of intervention, making immediate feedback.

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This process undoubtedly facilitates access to knowledge of all involved and allows the improvement in quality of care, since they demonstrate the strengths and difficulties in services, sensitizing managers and professionals involved in direct assistance to patients and showing that there thereof, are often alternative solutions.

It is also expected that this study will stimulate the development of this modality of research in other areas in the field of health and nursing services.

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