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ORIGINAL ARTICLE

# Performance evaluation of primary care services for the treatment of tuberculosis\*

AVALIAÇÃO DE DESEMPENHO DE SERVIÇOS DA ATENÇÃO BÁSICA PARA O TRATAMENTO DA TUBERCULOSE

EVALUACIÓN DEL DESEMPEÑO DE SERVICIOS DE LA ATENCIÓN BÁSICA PARA EL TRATAMIENTO DE LA TUBERCULOSIS

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## ABSTRACT

**Objective:** Evaluating the performance of primary care services for the treatment of tuberculosis according to the assessment referential of health services (structure/process) in Cabedelo, a port city in the state of Paraíba. **Method:** An evaluation quantitative, cross-sectional study, in which were carried out 117 interviews with health professionals using a structured instrument. The analysis was based on the construction of indicators using a standardized value for the reduced variable ( $z=1$ ). **Results:** The structural indicators showed regular performance for the following variables: professional training, access to record instruments and coordination with other services. The process indicators related to external actions and information about the disease had unsatisfactory performance. The directly observed treatment and the flows of reference/counter-reference had regular performance. **Conclusion:** The focused professional qualification, the fragmentation of practices and the unsystematic home care constitute obstacles for carrying out actions aimed at providing expanded, continuous and resolute care.

## DESCRIPTORS

Tuberculosis  
Primary Health Care  
Evaluation of Health Services  
Patient care team

## RESUMO

**Objetivo:** Avaliar o desempenho dos serviços de Atenção Básica para o tratamento da tuberculose segundo o referencial de avaliação dos serviços de saúde (estrutura/processo) em Cabedelo, município portuário da Paraíba. **Método:** Pesquisa avaliativa, quantitativa, de corte transversal onde foram realizadas 117 entrevistas com os profissionais de saúde, através de um instrumento estruturado. A análise pautou-se na construção de indicadores, utilizando-se valor padronizado para a variável reduzida ( $z=1$ ). **Resultados:** Os indicadores estruturais apresentaram desempenho regular para as variáveis: capacitação profissional; acesso a instrumentos de registro; articulação com outros serviços. Quanto ao processo, os indicadores relacionados às ações externas e informações sobre a doença apresentaram desempenho insatisfatório. O tratamento diretamente observado e os fluxos de referência/contrarreferência tiveram desempenho regular. **Conclusão:** A qualificação profissional focalizada, a fragmentação das práticas e a atenção domiciliar assistemática, constituem em obstáculos para o desempenho de ações voltadas à prestação do cuidado ampliado, contínuo e resolutivo.

## DESCRITORES

Tuberculose  
Atenção Primária à Saúde  
Avaliação dos Serviços de Saúde  
Equipe de assistência ao paciente

## RESUMEN

**Objetivo:** Evaluar el desempeño de los servicios de Atención Básica para el tratamiento de la tuberculosis según el marco de referencia de evaluación de los servicios de salud (estructura/proceso) en Cabedelo, municipio portuario de Paraíba. **Método:** Investigación evaluativa, cuantitativa, de corte transversal en donde se llevaron a cabo 117 entrevistas con los profesionales de salud, mediante un instrumento estructurado. El análisis se pautó en la construcción de indicadores, utilizándose valor estandarizado para la variable reducida ( $z=1$ ). **Resultados:** Los indicadores estructurales presentaron desempeño regular para las variables: capacitación profesional; acceso a instrumentos de registro; articulación con otros servicios. En cuanto al proceso, los indicadores relacionados con las acciones exteriores e informaciones acerca de la enfermedad presentaron desempeño insatisfactorio. El tratamiento directamente observado y los flujos de referencia/contrarreferencia tuvieron desempeño regular. **Conclusión:** La cualificación profesional enfocada, la fragmentación de las prácticas y la atención domiciliaria asistemática se constituyen en obstáculos para el desempeño de acciones dirigidas a la prestación del cuidado ampliado, continuo y resolutivo.

## DESCRIPTORES

Tuberculosis  
Atención Primaria de Salud  
Evaluación de los Servicios de Salud  
Grupo de atención al paciente

\* Extracted from the multicenter project 'Avaliação da Atenção Básica para o tratamento da tuberculose em municípios da região Sul, Sudeste e Nordeste do Brasil', School of Nursing of Ribeirão Preto, University of São Paulo, 2011. <sup>1</sup> PhD Student, Post-graduate Program in Nursing, Universidade Federal da Paraíba, João Pessoa, PB, Brazil. <sup>2</sup> Associate Professor, Universidade Federal da Paraíba, João Pessoa, PB, Brazil. <sup>3</sup> PhD Student, Interunits Post-graduate Program in Nursing, School of Nursing of Ribeirão Preto, University of São Paulo, Ribeirão Preto, SP, Brazil. <sup>4</sup> Adjunct Professor, Department of Social Medicine and Program of Professional Master in Technological Innovation, Federal university of Triângulo Mineiro, Uberaba, MG, Brazil. <sup>5</sup> Professor, School of Nursing of Ribeirão Preto, University of São Paulo, Ribeirão Preto, SP, Brazil.

## INTRODUCTION

The history of tuberculosis (TB) proves that in the twentieth century, the technological advances related to the discovery of preventive measures and the drug therapy for healing brought important changes in treatment and in the social representation of the disease. However, opposing to this progress, in this millennium TB still stands out as the disease that most kills in the world, and booming in countries with low social visibility, among the poorest popular segments<sup>(1)</sup>.

In the world scenario, the incidence rate of TB has been decreasing by 1.3% per year since 2002. However, in 2012, the World Health Organization (WHO)<sup>(2)</sup> estimated the incidence of 8.6 million cases of TB in the world, with 1.1 million deaths among people with negative testing for Human Immunodeficiency Virus (HIV) and 0.35 million deaths in TB/HIV coinfecting individuals. Despite the recent reduction in the number of notified cases, in 2012 there were 70,047 new cases of the disease in Brazil, with an estimated incidence of 36.1 cases per 100,000 inhabitants.

In 2012, the municipality of Cabedelo, located in the state of Paraíba (PB) and one of the selected for this study, reported 31 cases of TB with an incidence rate of 46.59/100,000 inhabitants and 13.3% of coinfection with HIV. In this same period, it recorded 74.2% of cure, 19.4% of treatment dropout and 6.5% of deaths, which contradicts the percentages recommended by the WHO, of 85% cure and 5% of treatment abandonment<sup>(3)</sup>.

There is evidence that the persistence of TB in Brazil reflects the stage of social development in the country, in which determinants of the poverty status, the fragility of health services organizations, and the quantitative and qualitative management deficiencies restrict the actions of disease control<sup>(4)</sup>.

In the organizational aspect, the production of care directed at TB cases is directly influenced by how the network of health care services is organized. According to the precepts of the Brazilian Unified Health System - under the National Primary Care Policy - the attention to cases is structured with the Family Health as the center of coordination and integration of the health service network<sup>(5)</sup>.

However, the disharmony between the transfer of responsibilities of TB control actions for the Primary Care services (PC) and the responsiveness of staff for managing the disease have made it impossible to establish such services as the gateway of suspected cases. The definite diagnosis is made too late, leaving the actions of detection and treatment of cases to the specialized clinics<sup>(6-7)</sup>.

Considering the management of TB treatment cases, constant attention is key and a relevant attribute of care at different levels; whether in the relationship between

user and staff, among employees of a particular specialty, or between experts and organizations, sectors or levels of care<sup>(8)</sup>. The Directly Observed Treatment (DOT), a fundamental element of the strategy of directly observed therapy short - *Directly Observed Treatment Short Course* (DOTS) - joins with a therapeutic approach potentially capable of adjusting to the singularities of households and ensure continuity of care. The DOT therefore, goes beyond the isolated surveillance of medications intake, as it requires greater responsibility of the health care team by including the need to strengthen the bond as a structural element in the care and control of TB<sup>(9-10)</sup>.

Studies<sup>(9,11)</sup> carried out in several regions of Brazil show that the DOT is a timely moment for appreciation of complaints, subjectivity, social communication, and of relationships of listening and empathy with users, thus enabling the expansion of therapeutic focus beyond the medical diagnosis and treatment.

In this direction, it is important to conduct this type of study for acknowledging the evaluation as a tool for identifying and locating problems related to the quantity and management of cases, equity in access, integration of services, possible dissonances and lack of training, and for the building of skills.

Despite the relevance of this topic, few national and international studies address the performance evaluation of health care services for the treatment of TB cases. In general, the studies focus on the analysis of performance indicators such as the rates of cure and abandonment, and the delay in diagnosis<sup>(7,12-13)</sup>.

Therefore, we chose to evaluate the performance of primary care services for the treatment of TB considering the components of *structure (capacity)* and *process (care provided)*. The *structure* corresponds to the resources necessary to enable the provision of services (physical resources, human resources and supplies for the maintenance of infrastructure, and existing technologies for the implementation of services). *Process* concerns all the activities and procedures employed in the management of resources, whether by the health professionals who provide care (provided care), or by the activities that represent the population (care received)<sup>(14-15)</sup>.

In the context of TB, the evaluation of these components allows to measure the impact of actions taken; to identify operational problems, and the difficulties faced in controlling the disease; and to generate information that can reorient the care practice<sup>(16)</sup>. Therefore, considering the evaluation as an effective and necessary alternative for monitoring the health actions, this study aims to evaluate the performance of primary care services for TB treatment from assessment indicators of *structure* and *process*, since they comprise all aspects related to the ability of producing and offering appropriate services to the community needs.

## METHOD

This is an evaluation quantitative, cross-sectional study. It was carried out in Cabedelo, a port municipality that belongs to the metropolitan area of João Pessoa (state of Paraíba-PB) and is a priority for TB control in the state. The region is part of the multicenter project developed in the cities of Foz do Iguacu-PR, Uberaba-MG, São José do Rio Preto (SJRP)-SP, and Cabedelo-PB and Natal-RN. The primary care network of the municipality consists of 19 of Family Health teams allocated in 19 Family Health Units (FHU), which represents an 85% coverage of the territory.

Data were collected between July and December 2011. The interviews with health professionals who worked in the FHU were carried out using a structured questionnaire prepared by the Operational Studies Group in Tuberculosis of the Brazilian Research Network on Tuberculosis, containing indicators for evaluating the performance of health professionals in monitoring cases of TB in the context of primary care<sup>(17)</sup>.

The number of professionals working in the primary care services of the municipalities was raised through the National Registry of Health (CNES - Cadastro Nacional de Estabelecimentos de Saúde) to calculate the sample of professionals to be interviewed. Professionals appearing in duplicate, those who worked in specialized services, hospitals and private clinics were excluded in order not to overestimate the sample.

Taking as reference the total population of health professionals working in primary care municipalities that were part of the multicenter study (Uberaba-MG = 489; SJRP-SP = 633; Foz do Iguacu-PR = 518 and Natal-RN = 976), and considering the parameters of 0.05 sampling error; confidence interval of 95%; and P (population proportion) of 50% to calculate the minimum sample, was obtained the minimum sample of professionals to be interviewed. The value achieved was corrected in relation to the total population of professionals. From this calculation, it was defined that 1,037 professionals would be interviewed as follows: 239 in SJRP-SP, 216 in Uberaba-MG, 225 in Foz do Iguacu-PR, 240 in Natal-RN and 117 in Cabedelo-PB. The amount of each professional category to be interviewed was defined by proportional sharing.

The order of interviews was established from the draw of health services and all the health professionals identified as key informants of the study (primary care workers of the municipality in 2011 that monitored a case of TB for at least six months) were interviewed. The draws were carried out until reaching the number of professionals expected by the sample calculation.

The data were analyzed using descriptive statistics techniques. The indicators were built for evaluating the performance of health services according to the assessment components of structure and process. The results of

the multicenter project were considered as reference for building the indicators in this study<sup>(17)</sup>. Thus, the variables of the data collection instrument applied to 1,037 professionals in 123 health facilities of the three studied regions of the country (South, Southeast and Northeast) enabled the creation of five reference indicators of structure, and four indicators of process, totaling nine indicators.

Each reference indicator corresponded to the average  $\mu = P$  (P equal to the proportion of the studied trait) and standard deviation of the questionnaire items that comprised each indicator. The reference indicators built from the component *structure* were: indicator of professionals (composed by professional variables involved with the care of TB patients, nursing assistants/technicians, doctors and community health agents) with reference values ( $84.2\% \pm 3.3\%$ ); indicator of training (training carried out by the epidemiological surveillance and medical professionals, nurses and community health workers trained in the three previous years) with values of  $56.0\% \pm 4.5\%$ ; indicator of access to record instruments (access to reporting forms, medical records, monthly monitoring records, daily record of Directly Observed Treatment - DOT and book record of cases by professionals) with values of  $72.0\% \pm 4.1\%$ ; indicator of availability of materials (pot for sputum examination, request for smear and culture) with values of  $92.2\% \pm 2.4\%$ ; indicator of coordination between the health service and other levels of care (patients need consultations for having comorbidities, patients need consultation due to coinfection with HIV, patients need consultations in case of treatment complications, patients need consultations when facing difficulties to carry out the DTO) with values of  $85,8\% \pm 7,6\%$ .

The reference indicators built from the component *process* were the following: indicator of information on TB (about the forms of disease transmission, the time to take medication, adverse reactions, the need to examine the contacts, importance of adherence to treatment) with values of  $97.7\% \pm 1.4\%$ ; indicator of DOT (discussion with the patient about carrying out the DOT, location where the DOT is carried out, day of the week to carry out the DOT, the service offers DOT at home, the service offers DOT in the health facility) with values of  $72.2\% \pm 3.7\%$ ; indicator of external actions for TB control (home visits, routine educational activities, educational actions in times of campaigns) with values of  $74.8\% \pm 3.9\%$ ; indicator of reference and counter-reference for others health services (professionals help with scheduling exams/consultations, provide written information, there is counter-reference of information relating to consultation) with values of  $70.5\% \pm 4.1\%$ .

From the reference indicators, was calculated an indicator for the municipality and for every health service using a standardized value of  $z = P_i - \mu / \sigma_p$  ( $P_i$ , proportion of every health service with the studied characteristics and/or the proportion of the municipality with the studied characteristic;  $\mu$ , reference indicator and  $\sigma_p$ , standard deviation), considering the approximation of the binomial

distribution to the normal distribution. As criteria for performance evaluation of the FHU and the municipality regarding the structure and care provided to TB patients in treatment, was considered value of  $Z = 1$  or  $Z = -1$ , i.e., a standard deviation to observe the differences between  $P_i$  and  $\mu$ . Thus, the FHU evaluated with indicators lower than  $-1$  did not reach the mean value and was considered unsatisfactory; between  $-1$  and  $1$ , it reached the mean value and was considered regular; and greater than  $1$  was higher than the mean value, and considered satisfactory.

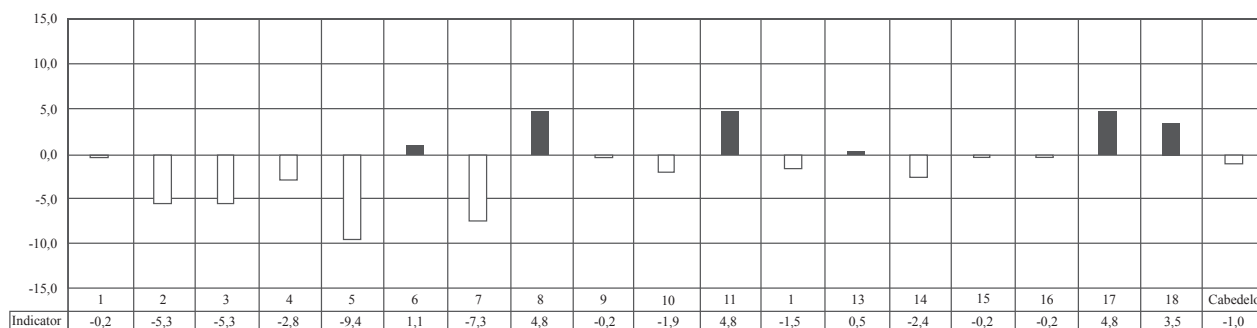
The study was approved by the Ethics Committee in Research of the Lauro Wanderley University Hospital of the Universidade Federal da Paraíba (Protocol number 069/2011), according to the guidelines of research

protocol contained in the Resolution 196/96 of the National Health Council (NHS).

## RESULTS

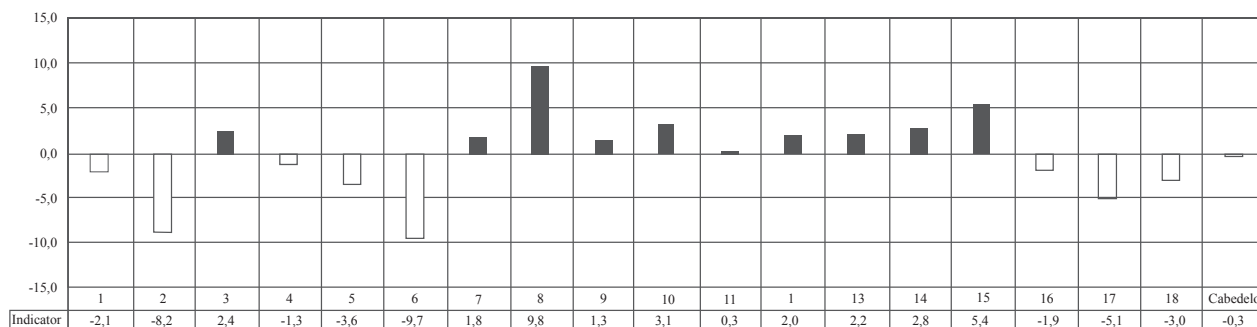
The indicators of structure of the primary care services in the municipality of Cabedelo-PB ranged between the values of  $-1.5$  and  $-0.1$  (Figure 1). The involvement of health professionals in the care of TB treatment cases ( $-1.0$ ); access to record instruments ( $-0.5$ ), training of staff for the management of cases ( $-0.3$ ) and coordination between the health service and other levels of care reached a mean value, with regular performance. Regarding the availability of materials, the municipality had unsatisfactory performance ( $-1.5$ ).

Cabedelo - Indicator of professionals involved with TB treatment



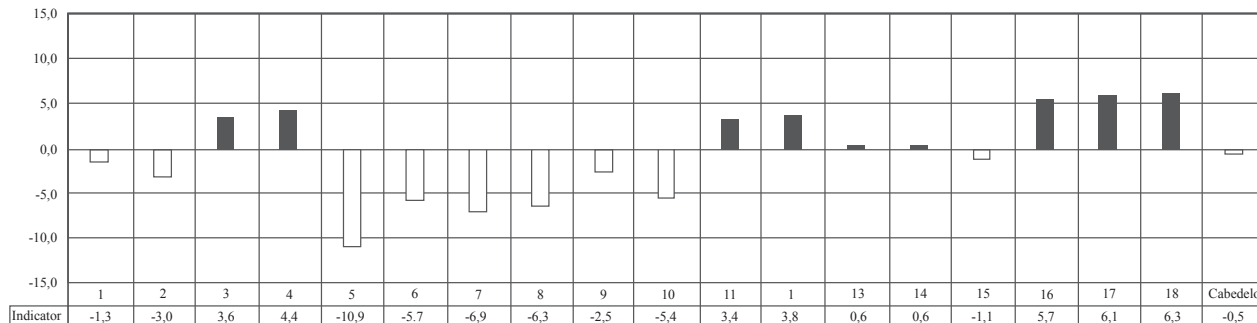
Indicator of professionals. Reference values:  $N = 1,037$ ; Mean = 84.15% and Standard Deviation = 3.29%.

Cabedelo - Indicators of professionals training

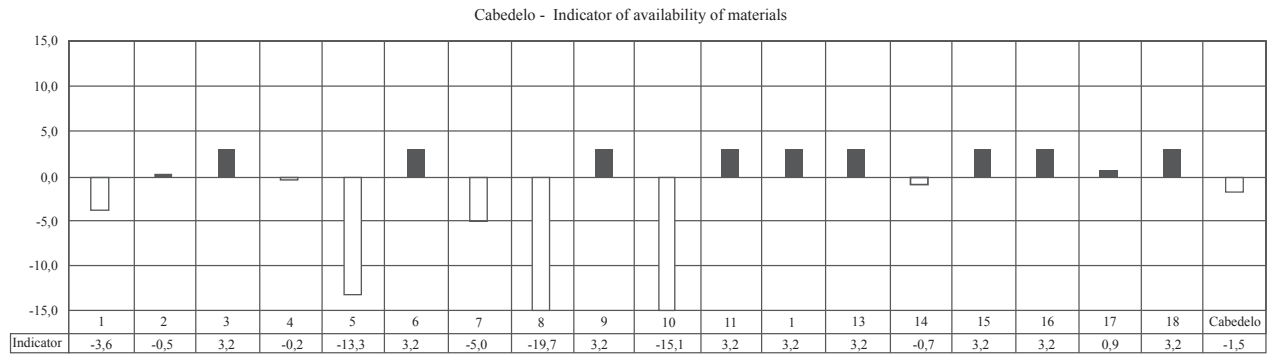


Indicator of training. Reference values:  $N = 1,037$ ; Mean = 56.00% and Standard Deviation = 4.50%.

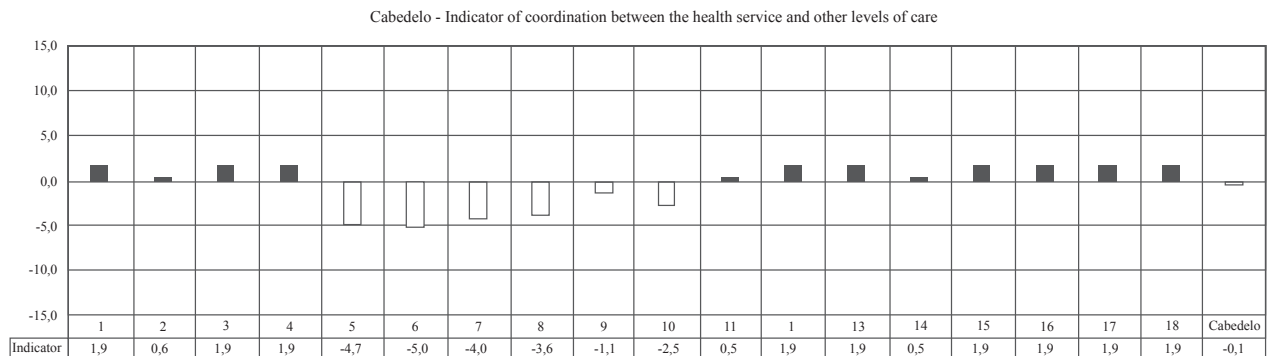
Cabedelo - Indicators of access to record instruments



Indicator of access to record instruments. Reference values:  $N = 1,037$ ; Mean = 72.00% and Standard Deviation = 4.05%.



**Indicator of availability of materials.** Reference values: N = 1,037; Mean = 92.16% and Standard Deviation = 2.42%



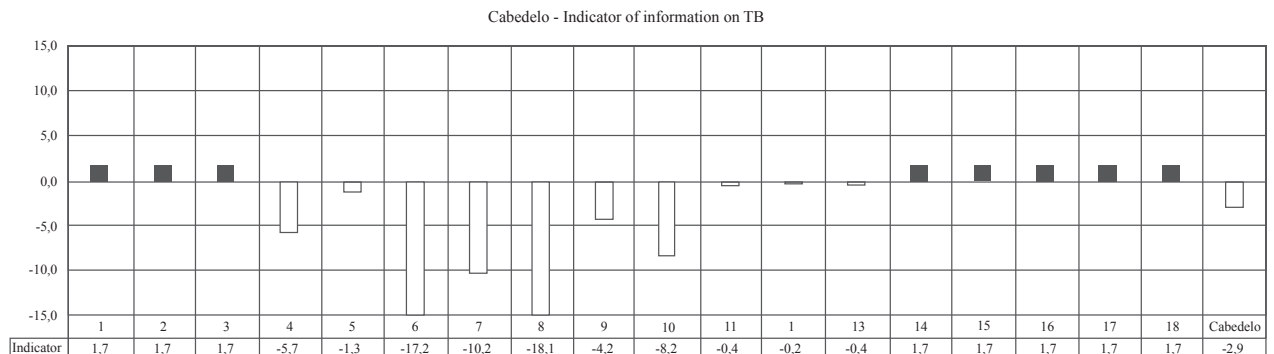
**Indicator of coordination between the health service and other levels of care.** Reference values: N = 1,037; Mean = 70.52% and Standard Deviation = 4.11 %.

■ Health services or municipalities with positive indicators □ Health services or municipalities with negative indicators  
OBS: the scale of the Y axis was kept between -15.0 and 15.0, excluding outliers

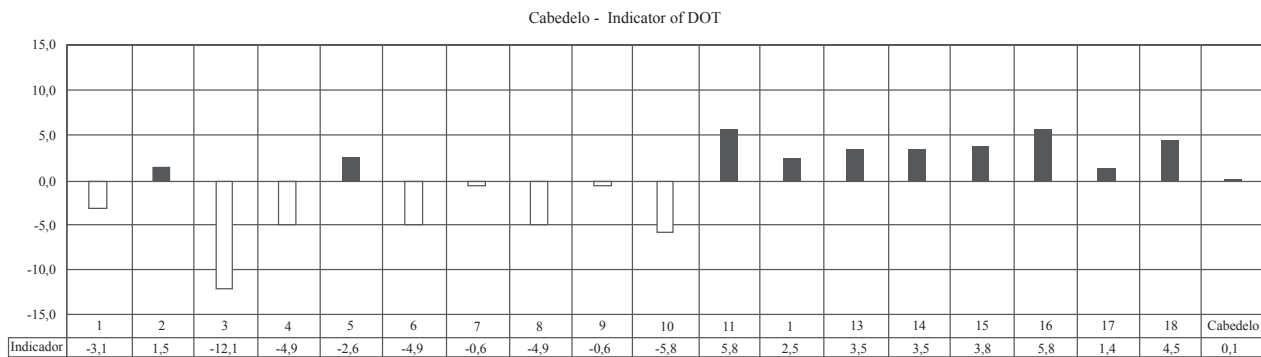
**Figure 1** – Indicators of structure of primary care services in the municipality of Cabedelo-PB, 2011.

As for the indicators of process of the primary care services (Figure 2), the results show that more than seven evaluated FHU (38.8%) had unsatisfactory performance for the indicator related to information about the disease. Among the FHUs, there was variation in the performance of the indicator relating to the treatment modality (DOT). In ten units (55.5%) this indicator was satisfactory, and in eight (45.5%) it was considered between unsatisfactory and regular.

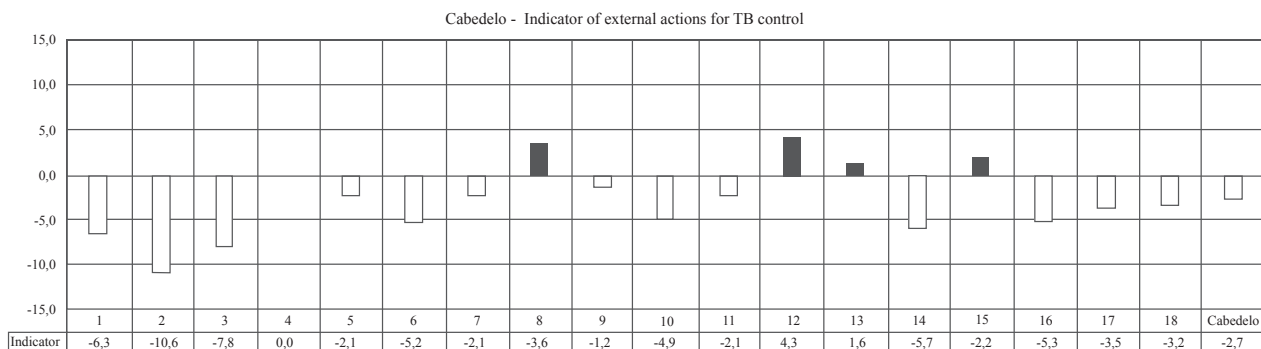
The flow of reference and counter-reference for other health services reached the mean value (-0.6) in the municipality, obtaining regular performance. The indicator that involves external actions (home visits, educational activities in the community) was satisfactory in only four (22.2%) of the evaluated FHU. In this indicator, the municipality has not reached the mean value.



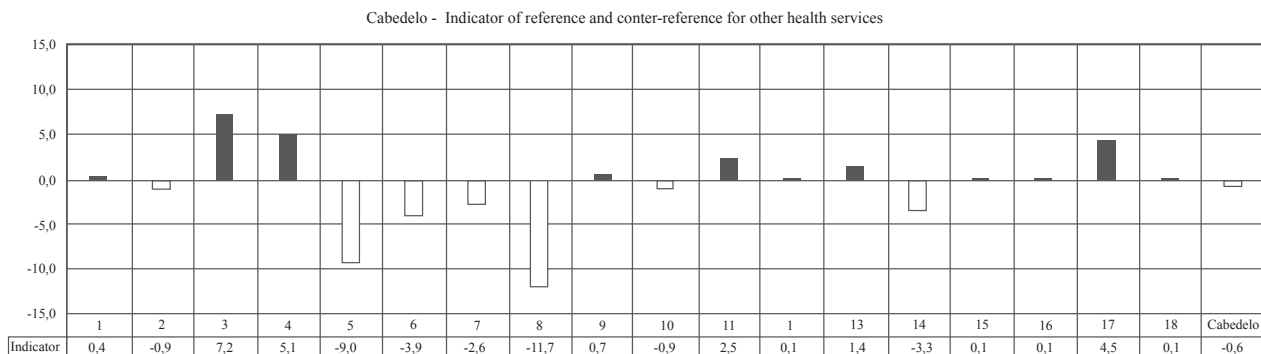
**Indicator of information on TB.** Reference values: N = 1,037; Mean = 97.70% and Standard Deviation = 1.35%.



**Indicator of DOT.** Reference values: N = 1,037; Mean = 78.24% and Standard Deviation = 3.72%.



**Indicator of external actions for TB control.** Reference values: N = 1,037; Mean = 74.83% and Standard Deviation = 3.91%.



**Indicator of reference and counter-reference for other health services.** Reference values: N = 1,037; Mean = 70.52% and Standard Deviation = 4.11 %.

■ Health services or municipalities with positive indicators    □ Health services or municipalities with negative indicators  
 OBS: the scale of the Y axis was kept between -15.0 and 15.0, excluding outliers.

**Figure 2 – Indicators of process of primary care services in the municipality of Cabedelo-PB, 2011.**

## DISCUSSION

In the city of Cabedelo, traditional elements of organization and management of work, such as shift schedules, division of labor according to the professional category and prior determination of functions, exist in the primary care network. In the present study, was observed the critical feature of diversity in the hiring procedures of the municipality. Sometimes through public concourse or under temporary contract, which favors the loss of

comprehensiveness of care, given the high turnover of temporary professionals. Therefore, the little control and opportunity to decide on their own work, and the division of tasks can lead to the low involvement of professionals in actions for TB control.

Moreover, the prescriptive nature of work management fragments the production of care and naturalizes the limits of performance among team members, where each one responsible for a part of the predefined activities. In general, the administrative actions are centralized

in nurse professionals (notification, prevision of supplies, control of absences, evaluation of contacts), and the clinical management of cases is responsibility of the medical staff, while the home care and supervision of medication are responsibility of the Community Health Agents (CHA). It is accepted, therefore, that the fractional characteristics of the working process of health teams in the studied municipality undermine the comprehensiveness of care and compromise the performance of the teams in the care of TB cases.

A study<sup>(11)</sup> carried out in municipalities of the state of São Paulo investigated the involvement of primary care teams in TB control. It showed that the quantitative and qualitative deficiencies of human resources, and the centralization and fragmentation of organization of actions of TB control in the health system compromised the quality of interaction between professionals and users for the proper management of disease in primary care, as well as the access to actions of diagnosis and treatment of TB. This logic of health services organization partially responds to social demands through reactive, episodic actions and focused primarily on acute conditions and acute exacerbations of chronic conditions<sup>(18)</sup>.

Another studied point that has direct interference in team involvement in TB control is related to the indicator of training. In Cabedelo, the responsibility of training is concentrated in the municipal coordinator of the Tuberculosis Control Program (TCP). The training processes occur annually or on occasion, when the introduction of new requirements or recommendations of the National Program are necessary. They are structured under the vertical, normative, and programmatic logic, primarily targeted to nurses and medical professionals, who are responsible for sharing the information obtained with the remaining team members, which not always happens in practice in the hectic service routine.

The absence of a policy of continuing education consistent with the current epidemiological situation and the turnover of health professionals, related to the discontinuity of political parties in Cabedelo, may also impair the maintenance of qualified health teams to deal with TB in primary care services<sup>(19-20)</sup>. Studies<sup>(21-22)</sup> aimed at identifying problems related to therapeutic adherence and to TB control emphasized that issues related to staff training need to achieve greater discussion and implementation, since most professionals working in primary care experienced the training process based on the curative care model, and not in the promotion of health.

With regard to TB, among other aspects, training should ensure the understanding of the disease and its conditioning factors, the development of skills for using instruments and technologies of prevention and control, and expertise to monitor the effects of interventions, identify faults and fix problems<sup>(21-22)</sup>.

A study<sup>(23)</sup> carried out in Fortaleza evaluated the impact of training the primary care staff on TB actions. It highlighted that although the training and awareness of the family health teams have expanded the detection of disease cases, its maintenance is conditioned to the permanent qualification of staff.

Regarding the access to treatment record instruments, it was found that although it is an essential tool in the work process of all team members, in practice it is centered on the figure of the nurse. The other professionals limit themselves to the medical records, ignoring the book of records of cases and the treatment follow up form. The medical staff have the responsibility of eventually filling out the form of notification and record of respiratory symptoms.

This fact is characterized as negative point for disease control, endangering the comprehensive care and hindering the assessment of processes and results of the TCP<sup>(24)</sup>. The appreciation and consequent qualification of records, as well as their access by all team members, constitute key factors for the success in disease control, since it allows that professionals working in health surveillance or user assistance, can monitor the treatment progress in consonance and consistence with the roles of primary care and strategic planning from the epidemiological diagnosis<sup>(19,25)</sup>.

The inability of teams to use an integrated health system is still observed. The failure to share information and inter-professional contacts, and the lack of concern with capturing the various dimensions of subjects with a health problem, are rooted in the traditional model of structuring of power in health care organizations<sup>(24)</sup>. Given the peculiarities of users with TB (alcoholism, drug addiction, comorbidities, unemployment and economic vulnerability), the production of care processes for this population should depend on appropriations and interventions with their sociocultural contexts, hence, it would be essential to strengthen the articulation practices among health services.

This initiative would be an important mechanism for clinical expansion and for improving the management of disease particularities of patients. Recognizing the differences among people with the same disease would favor the inclusion and participation of subjects in the production of singular therapeutic projects, and contribute positively to changes in the form of using the different points of the health care network<sup>(26)</sup>.

A study<sup>(27)</sup> carried out in the Netherlands showed that most interviewed patients became involved in the decision process of their own treatment, also contributing with additional information about the disease and possible treatments. Conversely, the lack of involvement of patients in the care process was noted in a study<sup>(28)</sup>, in which patients demanded more attention and seriousness from health professionals, a joint discussion about the best way

to carry out the therapy, as well as proper resources and guidance, informing them about the advantages and disadvantages of treatment, enabling their active participation in decision making.

In this perspective, the implementation of DOT in TB cases would be a strategic system for developing technical health care skills aimed at meeting the needs of users. When planning and implementing such activity, the specificities of each social and cultural context should be considered, integrating the family in preventive actions (evaluation of contacts, information about the disease) and in the care for the ill family member (treatment adherence, drug adverse reactions), requiring flexibility of teams for organizing the schedules and the place where the therapeutic supervision will be carried out<sup>(2)</sup>.

In the studied city, 55.5% of the investigated health units showed satisfactory performance for the indicator of DOT. However, there are no options in relation to where the therapy supervision takes place, restricting it to the homes of users under the responsibility of the CHA. In this case, the home visit happens just as the act of supervising the medication intake, with few educational interventions. The remaining team members have almost no involvement with this task, limiting themselves to administrative and management support activities (provision of medicines, filling requests for laboratory tests, reports of monitoring and other reports).

The practices of health education with the community had unsatisfactory performance in the investigated services and were characterized by a purely technical and medical attention conducted in occasional campaign seasons. These practices are recognized as relevant by enabling the production and strengthening of the bond between user, family and service, promoting continuity of care and the change of the biologicist practice<sup>(11,23)</sup>. However, the work overload, temporary bonds and the rotation of professionals among the FHU, predominated in the studied city, weakening the continuous implementation of these actions and thus determining the unsatisfactory outcome of this indicator.

Note also that although the primary care services of the municipality assist with the scheduling of appointments/examinations and with the provision of information to TB patients referred to other units, they are limited to specific activities on the premises, not expanding to other services in order to conform a health care network. These findings are in agreement with those obtained in the literature<sup>(26,29)</sup>, which show the discontinuity of information flow among departments in the mechanisms of reference and counter-reference in the care for TB patients, the difficulty of teams in ensuring the registration of this information, and the non-participation of patients in this process as obstacles to the continuity of care. The noncompliance with this information flow denotes deficiencies of

integration and cooperation among the health services, and reaffirms the predominance of the focused and selective conception.

Note that health evaluation has become an effective alternative to give answers about the planned and executed actions, providing information about the mode of operation, quality, effectiveness, safety and satisfaction of users of health systems<sup>(30)</sup>. Corroborating the study<sup>(19)</sup> carried out in this same region in 2011, within the context of TB, the quality assessment of health services in the municipality of Cabedelo-PB allowed the verification of difficulties faced in disease control, both for diagnosis and the treatment, enabling the generation of information that alerts managers and health professionals about the need to design interventions able to modify the health picture presented by the disease, thus changing the epidemiological indicators of this condition.

## CONCLUSION

The analysis of indicators of structure and process pointed to weaknesses in the performance of primary care services for the treatment of TB. In the studied municipality, the little involvement of professionals in the treatment of patients with TB stood out, as well as the discontinuity in the information flow of reference and counter-reference, the limited participation of patients in the care process and the limited participation of health services in the production of external actions (home visits, educational activities in the community).

These findings reflect the health system organization of the city, in which the care practices become effective in a fragmented manner, under the logic of addressing diseases of quick, reactive and episodic course. The prescriptive directing of the actions and care in health, the focused and normative qualification, the heterogeneity of bonding, and the professional turnover in primary care services leave few possibilities of intervention in production processes, and little autonomy of professionals for developing new skills in the workspaces.

In this context, it becomes necessary to create strategies involving partnership of the TCP with new actors, in order to share some activities with the reference team for TB, acting as support for the cases followed in primary care, since this network assumes all the complexity of disease management in the municipality. Still, for the effective control of the disease, it is important that health professionals, as well as health policies, transcend the fragmented and reductionist nature of actions, enabling the comprehensive care, considering the sick person according to the conception of the health-disease process and care.

Moreover, evaluating the TB treatment in a broader sense is essential, considering the patients, their



peculiarities, needs and the context in which they are inserted. The importance of conducting evaluation studies is noteworthy because they can produce information both for the improvement of health interventions, as for assessing the effectiveness of actions and the satisfaction of system users.

## REFERENCES

1. Santos MAPS, Albuquerque MFPM, Ximenes RAA, Silva NLCLL, Braga C, Campelo ARL, et al. Risk factors for treatment delay in pulmonary tuberculosis in Recife, Brazil. *BMC Public Health* [Internet]. 2005 [cited 2014 June 18];5:25. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1084352/>
2. World Health Organization. *Global Tuberculosis Control*. Geneva: WHO; 2013.
3. Brasil. Ministério da Saúde. DATASUS. Tuberculose: casos confirmados e notificados no Sistema de Informação de Agravos de Notificação – SINAN Net. 2014 [Internet]. Brasília; 2014 [citado 2014 jun. 18]. Disponível em: <http://dtr2004.saude.gov.br/sinanweb/tabnet/dh?sinanet/tuberculose/bases/tubercbrnet.def>
4. Nogueira JA, Silva CA, Trigueiro DRSG, Trigueiro JVS, Almeida AS, Sá LD, et al. A formação de profissionais de saúde na atenção a TB: desafios e contradições da prática. *Rev Enferm UFPE Online* [Internet]. 2011 [citado 2014 jun. 18];5(4):778-87. Disponível em: <http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/download/1323/1923>
5. Giovanella L, Mendonça MHM, Almeida PF, Escorel S, Senna MCM, Fausto MCR, et al. Saúde da família: limites e possibilidades para uma abordagem integral de atenção primária à saúde no Brasil. *Ciênc Saúde Coletiva*. 2009;14(3):783-94.
6. Wysocki AD, Ponce MAZ, Scatolin BE, Andrade RLP, Vendramini SHF, Ruffino-Netto A, et al. Delay in seeking initial care for tuberculosis diagnosis. *Rev Esc Enferm USP* [Internet]. 2013 [cited 2014 June 18];47(2):440-7. Available from: [http://www.scielo.br/pdf/reeusp/v47n2/en\\_24.pdf](http://www.scielo.br/pdf/reeusp/v47n2/en_24.pdf)
7. Scatena LM, Villa TCS, Ruffino Netto A, Kritski AL, Figueiredo TMRM, Vendramini SHF, et al. Dificuldades de acesso a serviços de saúde para diagnóstico de tuberculose em municípios do Brasil. *Rev Saúde Pública*. 2009;43(3):389-97.
8. Boerma WGW. Coordination and integration in European primary care. In: Saltman RB, Rico A, Boerma WGW, editors. *Primary care in the driver's seat? Organizational reform in European primary care*. New York: World Health Organization; 2006.
9. Villa TCS, Andrade RLP, Arakawa T, Magnabosco GT, Beraldo AL, Monroe AA, et al. Satisfação do usuário com os serviços de atenção à tuberculose em Ribeirão Preto, 2008. *Cad Saúde Coletiva*. 2012;20(2):234-43.
10. Brunello MEF, Cerqueira DF, Pinto IC, Arcênio RA, Gonzalez RIC, Villa TCS, et al. Vínculo doente-profissional de saúde na atenção a pacientes com tuberculose. *Acta Paul Enferm*. 2009;22(2):176-82.
11. Monroe AA, Cardozo-Gonzales RI, Palha PF, Sasaki CM, Ruffino Netto A, Vendramini SHF, et al. Involvement of health primary care teams in the control of tuberculosis. *Rev Esc Enferm USP*. 2008;42(2):262-7.
12. Adeyekun AA, Egbagbe EE, Oni OA. Contact tracing/pre-employment screening for pulmonary tuberculosis: should positive Mantoux test necessitate routine chest X-ray? *Ann Afr Med*. 2010;9(3):159-63.
13. Wang W, Jiang Q, Abdullah ASM, Xu B. Barriers in accessing to tuberculosis care among non-residents in Shanghai: a descriptive study of delays in diagnosis. *Eur J Public Health*. 2007;17(5):419-23.
14. Starfield B. *Atenção primária: equilíbrio entre necessidades de saúde, serviços e tecnologia*. Brasília: Ministério da Saúde/Fundo das Nações Unidas para a Infância; 2002.
15. Donabedian A. *The definition of quality and approaches to its assessment*. Michigan: Ann Arbor/Health Administration Press; 1980.
16. Tanaka OU, Tamaki EM. O papel da avaliação para a tomada de decisão na gestão de serviços de saúde. *Ciênc Saúde Coletiva*. 2012;17(4):821-8.
17. Scatena LM, Wysocki AD, Beraldo AA, Magnabosco GT, Brunello MEF, Ruffino Netto A, et al. Validação e confiabilidade: instrumento para avaliação de serviços que tratam tuberculose. *Rev Saúde Pública*. 2014. No prelo.
18. Mendes EV. *As redes de atenção à saúde*. *Ciênc Saúde Coletiva*. 2010;15(5):2297-2305.
19. Sá LD, Santos ARBN, Oliveira AAV, Nogueira JA, Tavares LM, Villa TCS. O cuidado à saúde da mulher com tuberculose na perspectiva do enfoque familiar. *Texto Contexto Enferm*. 2012;21(2):409-17.

20. Cardoso GCP, Cruz MM, Abreu DMF, Decotelli PV, Chrispim PPM, Borenstein JS, et al. A conformidade das ações do tratamento diretamente observado para tuberculose na perspectiva dos profissionais de duas unidades de saúde da cidade do Rio de Janeiro. *Cad Saúde Coletiva*. 2012;20(2):203-10.
21. Queiroz EM, De-Latorre-Ugarte-Guanilo MC, Ferreira KR, Bertolozzi MR. Tuberculosis: limitations and strengths of Directly Observed Treatment Short-Course. *Rev Latino Am Enfermagem*. 2012 ;20(2):369-77.
22. Terra F, Bertolozzi MR. Does directly observed treatment (“DOTS”) contribute to tuberculosis treatment compliance? *Rev Latino Am Enfermagem*. 2008;16(4):659-64.
23. Façanha MC, Melo MA, Vasconcelos FF, Sousa JRP, Pinheiro AS, Porto IA, et al. Treinamento da equipe de saúde e busca ativa na comunidade: estratégias para a detecção de casos de TB. *J Bras Pneumol*. 2009;35(5):449-54.
24. Campos GWS, Domitti AC. Apoio matricial e equipe de referência: uma metodologia para gestão do trabalho interdisciplinar em saúde. *Cad Saúde Pública*. 2007;23(2):399-407.
25. Theme Filha MM, Daumas RP, Alves LC, Leimann BCQ, Engstrom EM. Análise da tuberculose em uma unidade de Atenção Primária à Saúde na cidade do Rio de Janeiro: perfil clínico, resultado de tratamento e qualidade dos registros. *Cad Saúde Coletiva*. 2012;20(2):169-76.
26. Assis EG, Beraldo AA, Monroe AA, Scatena LM, Cardozo-Gonzales RI, Palha PF, et al. The coordination of care for tuberculosis control. *Rev Esc Enferm USP*. 2012;46(1):111-8.
27. Ireson CL, Slavova S, Steltenkamp CL, Scutchfield FD. Bridging the care continuum: patient information needs for specialist referrals. *BMC Health Serv Res* [Internet]. 2009 [cited 2014 June 18];9:163. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2759928/>
28. Berendsen AJ, Jong GM, Jong BM, Dekker JH, Schuling J. Transition of care: experiences and preferences of patients across. *BMC Health Serv Res* [Internet]. 2009 [cite 2014 June 18];9:62. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2674593/>
29. Almeida PF, Giovanella L, Mendonça MHM, Escorel S. Desafios à coordenação dos cuidados em saúde: estratégias de integração entre níveis assistenciais em grandes centros urbanos. *Cad Saúde Pública*. 2010;26(2):286-98.
30. Samico I, Hartz ZMA, Felisberto E, Carvalho EF. Atenção à saúde da criança: uma análise do grau de implantação e da satisfação de profissionais e usuários em dois municípios do estado de Pernambuco, Brasil. *Rev Bras Saúde Mater Infant*. 2005;5(2):229-40.

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