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ORIGINAL ARTICLE

CARE ORGANIZATION FOR TUBERCULOSIS IN THE PRIMARY CARE OF RIO GRANDE DO NORTE

ORGANIZAÇÃO DO CUIDADO À TUBERCULOSE NA ATENÇÃO BÁSICA DO RIO GRANDE DO NORTE

ORGANIZACIÓN DEL CUIDADO A LA TUBERCULOSIS EN LA ATENCIÓN BÁSICA DE RIO GRANDE DO NORTE

Ewerton William Gomes Brito[1], Anny Karine Freire da Silva[2], George Godeiro de Araújo Teixeira[3], Glaucio Britto Sousa Dias[4], Nilma Dias Leão Costa[5], Severina Alice da Costa Uchôa[6]

ABSTRACT

Objective: to evaluate the care organization of tuberculosis (TB) in primary care in Rio Grande do Norte. ***Method***: descriptive study, cross-sectional cut of a multicenter project, based on the External Evaluation component of secondary data available in PMAQ-AB bank, for the first evaluation cycle conducted in 2012. Data were analyzed using SPSS software for Windows. The Research Ethics Committee, Opinion 21904, approved the research project. ***Results***: although 27.7% of health services have not care protocols, 97.3% and 95.6% of the teams requesting smear and chest X-ray, respectively; 63.1% of the teams accompany the directly observed treatment (TDO), but only 57.3% conducts an active search for missing patients to this treatment modality. ***Conclusion***: the lack of assistance protocols in a portion of health services has proved to be one of the main weaknesses in patient care. ***Descriptors***: Tuberculosis; Health Evaluation; Primary Health Care; Family Health Strategy.

RESUMO

Objetivo: avaliar a organização do cuidado à tuberculose (TB) na atenção básica do Rio Grande do Norte. ***Método***: estudo descritivo, de corte transversal, recorte de um projeto multicêntrico, baseado nos dados secundários do componente Avaliação Externa disponíveis no banco do PMAQ-AB, referentes ao primeiro ciclo de avaliação, realizado em 2012. Os dados foram analisados pelo programa *SPSS for Windows*. O projeto de pesquisa foi aprovado pelo Comitê de Ética em Pesquisa, parecer 21904. ***Resultados***: embora 27,7% dos serviços de saúde não possuam protocolos assistenciais, 97,3% e 95,6% das equipes solicitam baciloscopia e radiografia de tórax, respectivamente; 63,1% das equipes acompanham o tratamento diretamente observado (TDO), mas apenas 57,3% realizam a busca ativa de pacientes faltosos a esta modalidade de tratamento. ***Conclusão***: a inexistência de procolocos assistenciais em uma parcela dos serviços de saúde se revelou como uma das principais fragilidades no cuidado aos doentes. ***Descritores***: Tuberculose; Avaliação em Saúde; Atenção Primária à Saúde; Estratégia Saúde da Família.

RESUMEN

Objetivo: evaluar la organización del cuidado a la tuberculosis (TB) en la atención básica de Rio Grande do Norte. ***Método***: estudio descriptivo, de cohorte transversal, recorte de un proyecto multi-céntrico, basado en los datos secundarios del componente Evaluación Externa disponibles en el banco de PMAQ-AB, referentes al primer ciclo de evaluación, realizado en 2012. Los datos fueron analizados por el programa *SPSS for Windows*. El proyecto de investigación fue aprobado por el Comité de Ética en Investigación, parecer 21904. ***Resultados***: aunque 27,7% de los servicios de salud no posean protocolos asistenciales, 97,3% y 95,6% de los equipos solicitan baciloscopia y radiografía de tórax, respectivamente; 63,1% de los equipos acompañan el tratamiento directamente observado (TDO), pero apenas 57,3% realiza la búsqueda activa de pacientes faltosos a esta modalidad de tratamiento. ***Conclusión***: la inexistencia de protocolos asistenciales en una porción de los servicios de salud, se reveló como una de las principales fragilidades en el cuidado a los enfermos. ***Descriptores***: Tuberculosis; Evaluación en Salud; Atención Primaria a la Salud; Estrategia Salud de La Familia.

[1]Dentist, Master degree Teacher, Specialist of Pulmonology Clinic and Teaching in Health Surveillance, Ph.D. in Health Sciences, Graduate Program in Health Sciences, Federal University of Rio Grande do Norte/UFRN. Natal (RN), Brazil. E-mail: ewerton_brito@hotmail.com; [2]Nurse. Scholarship at the Research Group studies in Public Health, Federal University of Rio Grande do Norte/UFRN. Natal (RN), Brazil. E-mail: aninha529@hotmail.com;[3]Member of the Research Group studies in Public Health, Federal University of Rio Grande do Norte/UFRN. Natal-RN, Brasil. E-mail: georgegodeiro@hotmail.com; [4]Member of the Research Group studies in Public Health, Federal University of Rio Grande do Norte/UFRN. Natal-RN, Brazil. E-mail: glauciobrito3@hotmail.com; [5]Ph.D. Professor of Health Sciences, Department of Public Health, Federal University of Rio Grande do Norte/UFRN. Natal (RN), Brasil. E-mail: nilmadlcosta54@gmail.com; [6]Ph.D. Professor in Health, Coordinator of External Evaluation of Access Improvement Program and Quality in Primary Care (PMAQ-AB), Ministry of Health/States of Rio Grande do Norte and Ceará. Department of Public Health, Federal University of Rio Grande do Norte/UFRN. Natal (RN), Brazil. E-mail: alicedacostauchoa@gmail.com

INTRODUCTION

Despite the scientific advances achieved in recent decades, tuberculosis (TB) is still remained a major problem of global public health. In 2013, the World Health Organization (WHO) estimated in nine million people with the disease, and 1.5 million died because of it.[1] It is strongly associated with social inequality, about 95% of cases are diagnosed in the countries in development[2] where people with difficulties in access and use of health services are most affected.[3]

Brazil is among the 22 countries with the highest quantity of TB notified in the world, occupying the 16th position in the absolute number of cases.[1] In 2013, the country has an incidence of 46/100,000 and 2.2 per 100,000 inhabitants of mortality with variations between regions, states and municipalities. The North, Southeast and the Northeast have the highest incidence rates: 45.2; 37.1 and 34.7 cases per 100 thousand inhabitants, respectively[1]. Among the northeastern states, there is Pernambuco (49.6), Ceará (38.9); and Rio Grande do Norte with the incidence rate of 32.2 cases/100,000 inhabitants.[1,4]

The Ministry of Health (MS) through the National Tuberculosis Control Program (PNCT) adopts strategies to detect 70% of smear positive pulmonary cases, healing 85% of reported cases and reducing the abandonment of treatment to less than 5%. In this perspective, the PNCT proposes the expansion of TB control actions in the network of health services of the Unified Health System (SUS), decentralizing the actions of reference centers for the Primary Care Services (AB), through the Program Community Agents (PACS) and the Family Health Strategy (ESF).[5]

Suspected cases of TB should be captured, treated and linked to AB through the ESF or the Basic Health Units (UBS). The cases diagnosed by the specialist services should be welcomed and accompanied by AB teams, which should lead the Directly Observed Treatment (TDO) and the investigation of contacts. Thus, the AB teams play an extremely important role in the timely diagnosis and monitoring of patients.[5,6]

Although the policy evaluation culture and programs are still incipient in Brazil[7], some recent studies have evaluated the performance, timely diagnosis, accessibility[8-13], the performance of health professionals[14-7], the provision of social services and inequities related to TB.[18] In a complementary perspective, despite the existence of various government initiatives[4], which aim to assess and qualify the surveillance and control of TB in SUS, only recently the MS has released the results of these studies.

The National Program for Improving Access and Quality of Primary Care (PMAQ-AB) is presented as one of the most important initiatives of MS, which aims to stimulate increasing access and improving quality AB, ensuring a quality standard national, regional and locally comparable enabling greater transparency and effectiveness of government actions aimed at AB.[19] Through this assessment nationwide, a census of all health facilities in AB level was held with a focus on infrastructure, and also of Primary Care Teams (EAB), which joined the evaluation. The teams were assessed for structure, management and satisfaction of patients.[20] Among several evaluation indicators of AB, the first PMAQ-AB cycle had a number of indicators that evaluated the quality of TB treatment, and those results presented in this article.

In view of the facts presented and the relevance of the theme for management of municipal and state TB programs, this study aims to evaluate the organization of care for TB in Rio Grande do Norte primary care to contribute to identification of strengths and weaknesses involving attention to patients, support the planning and the sometimes program control actions and treatment of disease in the territories.

METHOD

Descriptive and cross-sectional study with a quantitative approach, cut of the multicenter project “Evaluation of primary health care in Brazil: Integrated multi-center studies on access, quality and patients satisfaction”.

This study was conducted in the state of Rio Grande do Norte/RN, located in northeastern of Brazil, which has an estimated population of 3,408,510 inhabitants in 2014, distributed in 167 cities, occupying a total area of 167.263 km [21]. It has currently 861 primary care teams[22], and 412 of them joined the evaluation.

There were professionals and patients of health services listed according to the proposed guidelines nationally.[20] Professional participants of the study were given by the health team at the time of the visit of the evaluators to the primary unit.

Evaluators selected four members per team evaluated, in the health unit on the external evaluation day. There were included patients that have not gone through consultation with doctor, nurse or dentist in the day of the interview; belonging to the area of coverage

of the evaluated staff; going to the unit over the last two years; and finally, those who agreed to join the study voluntarily, signed the Consent Form. The specific blocks (women´s health, prenatal, child, hypertension, diabetes) were applied according to the interviewee´s patient profile.

The study is based on secondary data belonging to the component of the External Evaluation available in PMAQ-AB bank, for the first evaluation cycle, carried out in 2012 in the state of Rio Grande do Norte (RN). As data collection instrument, a national electronic questionnaire was used, available in tablets, with direct sending of information online to the database of the Department of Primary Care/Ministry of Health (DAB/MS).

The original questionnaire consists of four modules: Module I for the observation of UBS and aims to assess the infrastructure, equipment, materials, supplies, medication, biopharmaceuticals and existing diagnostic tests at UBS; Modules II and III for structured interviews with higher level professional teams of AB and UBS patients; Module IV of a set of complementary information to the modules I, II and III answered by managers and teams in Primary Care Management System.

In order to meet the objectives proposed in this article, variables of the modules II were selected, specific of attention to TB patients coming from the sub-items “AB team as care coordinator in the health care network”, “attention to the TB patient” and “health promotion”; and module III, coming from the sub-items “access to health services” and “host and spontaneous demand”. The information derived from module II represent only the EAB that joined voluntarily to the program. Thus, they do not depict the total existing EAB in Rio Grande do Norte.

In addition, some variables that allowed characterizing the profile of professionals and patients respondents were selected. All variables can be observed in the exposed tables in the results.

Fieldwork was conducted in all 167 municipalities of the state, from May to August 2012. The collection team was composed of twenty research assistants and five supervisors researchers. As standardization strategy of collection, the entire team was trained in the subject and methodology within national parameters and state-sponsored workshop for coordinating the project. The questionnaire included the electronic programming tool and also with internal criteria for data validation which ensure the reliability of the information recorded. Thus, there are: minimum and maximum time considered within the normal range for application of the instrument; date and start time and instrument application termination; proportion of answers marked the alternative “do not know/no response”; match the geographic coordinates; answers with five characters or more repeated.

Data were analyzed by descriptive techniques with the Statistical Package for Social Sciences for Windows (SPSS version 17.0 for Windows).

The study followed the Resolution 196/96 of the National Health Council (CNS) and was approved by the Ethics Committee in Research of the Federal University of Rio Grande do Norte, with the number 21904 of 13 March 2012.

RESULTS

There were 412 professionals interviewed, 387 (93.9%) nurses, 16 (3.9%) doctors and nine (2.2%) dentists. The average time of work of these professionals in the teams is 3.3 years (SD=3.4). As for complementary training, 85% of respondents said they have or are attending some sort of graduate, and 46% are experts in the public health area and 33.3% are ongoing of a course in that area, as can be seen in Table 1.

Table 1. Professionals profile interviewed according to area of complementary training. Rio Grande do Norte, 2012.

Training area	Concluded		Ongoing	
	n	%	n	%
Family and Community Medicine Specialization	2	0,6	35	20,5
Family Health Specialization	78	24,9	22	12,8
Public Health/Collective Health Specialization	64	20,5	92	53,8
Other Specialization	161	51,5	2	1,2
Master degree in Family Health	2	0,6	1	0,6
Public Health/Collective Health Master degree	1	0,3	9	5,2
Family and Community Medicine Residence	2	0,6	4	2,3
Family Health Residence	2	0,6	3	1,8
Ph.D. in Family Health	1	0,3	3	1,8

Source: PMAQ-AB Database, first cycle, 2012.

There were also 1650 patients interviewed, predominantly females (83.3%) and aged between 20-39 years old (49%). As for education, most respondents (71.5%) did not answer or did not mention their own education, while 14.4% say they studied between 1-3 years, as described in Table 2.

Table 2. Characterization of patients according to social variables of PMAQ participants. Rio Grande do Norte, 2012.

Variables		n	%
Gender	Male	276	16,7
	Female	1374	83,3
	Total	1650	100,0
Age group	16-19	66	5,9
	20-39	773	49,0
	40-59	518	31,4
	60 or more	267	12,1
	Did not know/not responded	26	1,6
	Total	1650	100,0
Education	Did not study	79	4,8
	1-3 years	237	14,4
	4-7 years	140	8,4
	8-11 years	12	0,8
	12 or more	2	0,2
	Did not know/not responded	1180	71,5

Source: PMAQ-AB Database, first cycle, 2012.

♦ Organization of care for TB patients from the perspective of the teams

Regarding the tuberculosis control actions carried out by the teams, 72.3% of professionals said their teams have protocols with therapeutic guidelines definitions for TB. When asked about the exams required for the diagnosis of the disease, 97.3% and 95.6 mentioned to request sputum smear microscopy and chest X-ray, respectively.

With regard to the registration of the number of patients with TB, 76.5% of professionals said that the EAB has these records. Similar results were seen for the existence of compulsory notification form of TB cases, where 78.9% of the teams have this recording instrument at UBS. Regarding the Directly Observed Treatment (TDO), 63.1% of respondents said that accompany the TDO, however, only 57.3% of the teams carry out active search for missing patients to this treatment modality, as shown in Table 3.

Regarding the education and health promotion activities aimed at TB, 66.5% of professionals said they perform such activities, while the majority of respondents, about 81.6%, reported that the team promotes activities with groups of educational intervention focused to guide on communicable diseases, including TB, according to the needs of the territory.

Table 3. Absolute and relative frequency of specific variables of care to tuberculosis patients from the perspective of AB teams in Rio Grande do Norte in 2012.

Variables	n	%
Existence of protocols with TB treatment definition		
Yes	298	72,3
No	110	26,7
Did not know/Not Responded	4	1,0
Smear request		
Yes	401	97,3
No	11	2,7
Chest X-ray request		
Yes	394	95,6
No	18	4,4
Registration existence of the number of patients with TB		
Yes	315	76,5
No	85	20,6
Did not know/Not Responded	12	2,9
Existence TB case notification records		
Yes	325	78,9
No	1	0,2
Not applied*	85	20,6
Did not know/Not Responded	1	0,2
TDO Monitoring		
Yes	260	63,1
No	53	12,9
Not applied*	85	20,6
Did not know/Not Responded	14	3,4
Active search of TDO missing		
Yes	236	57,3
No	62	15,0
Not applied*	85	20,6
Did not know/Not Responded	29	7,0
Educational and health promotion		
Yes	274	66,5
No	138	33,5
Focus groups to guide transmitted diseases, including TB		
Yes	336	81,6
No	76	18,4

source. PMAQ-AB database, first cycle, 2012. * Lack of patients with TB in the territory.

♦ Care assessment from the perspective of patients

When asked about access to health services, most respondents considered close (65.5%) and reasonable (21.0%) the distance from their houses to the health unit. Almost 90% of respondents said that UBS operates five days a week, although 39.8% of patients reported that the doctor is not present at the unit during all hours of operation.

With regard to the reception to spontaneous demand, 40.7% and 17.9% of patients interviewed considered it good and very good, respectively, while only 0.2% considered very bad. When hosted, 55.1% of patients said they always receive guidelines that meet their needs, while for 14.7% of patients such guidelines do not meet their needs. Professionals always respect most respondents in their cultural habits, customs and religion (88%). The absolute and relative frequencies of the variables that measured access and host to the spontaneous demand are shown in Table 4.

Table 4. Absolute and relative frequency of variables related to access and host to spontaneous demand. Rio Grande do Norte, 2012.

Variables	n	%
Distance from their houses to the UBS		
Close	1080	65,5
Reasonable	347	21,0
Far	220	13,3
Did not know/not responded	3	0,2
UBS functioning during the five days of the week		
Yes	1434	86,9
No	153	9,3
Did not know/not responded	63	3,8
Presence of the doctor at the health unit or neighborhood activities during the UBS operation		
Yes	907	55,0
No	656	39,8
Did not know/not responded	87	5,3
Feedback hosting when looking UBS		
Very good	295	17,9
Good	671	40,7
Reasonable	202	12,2
Bad	5	0,3
Very bad	4	0,2
Not applied**	472	28,6
Did not know/not responded	1	0,1
The professionals guidelines address their needs		
Yes, Always	909	55,1
Yes, sometimes	243	14,7
No	22	1,3
Did not know/not responded	476	28,8
Respected by professionals in their cultural habits, customs and religion		
Yes, Always	1452	88,0
Yes, sometimes	149	9,0
No	44	2,7
Did not know/not responded	5	0,3

Source: PMAQ-AB database, first cycle, 2012. ** Never had to go to UBS without appointment

DISCUSSION

The study provides an overview of the Tuberculosis care in RN state elaborated from structural and process indicators. Thus, it contributes to the understanding of the factors that limit and strengthen the practice of the evaluated teams, allowing the identification of care priorities with patients, and it can serve to support the management and the teams in actions targeting the population.

Currently in Brazil, the Family Health Strategy (ESF) is considered the main TB patient´s gateway in Primary Care. The PNCT focuses on decentralization of control measures for health care of AB in order to increase the population´s access to diagnosis and control of disease.[5]

From this perspective, the MS establishes technical and operational rules that guide the practice of health teams of AB and other levels of care. The guidelines are available in print and digitized publications that bring the most relevant actions for the control and treatment of TB in health care and should guide the patient care[5,23,24]. Despite the availability of these publications by MS, this study showed that about 25% of health teams have no clinical protocol with therapeutic guidelines definitions for TB. Similar results were reported in the study of Garnelo et al[25] when analyzing the PMAQ-AB database of the northern region of Brazil, revealing a weakness in the organizational structure of health services, which can result in difficulties in diagnosis, monitoring cases and TB contacts.

Regarding the request of diagnostic tests, the study showed that most teams are requesting sputum smear microscopy and chest X-ray. Sputum smear microscopy is the main diagnostic test for tuberculosis responsible for diagnosing 60-80% of cases of pulmonary TB. The PNCT recommends that health units should receive samples collected in their house and keep them refrigerated at UBS, to its processing by the responsible laboratory[23]. Therefore, it is necessary that the management organize the routing flow of samples to laboratories and return results in a timely manner. This study was not verified access to examinations and results, but the tests were requested. In a study conducted in Natal[26], RN capital, the authors showed that despite the existence of forms to request sputum examination and the availability of pots to collect the material, some units had unsatisfactory operating indicators for the MS parameters.

The PNCT monitors the epidemiological situation of the disease through a series of epidemiological and operational data produced by the health services, whose records occur in different documents. The results show that a high percentage of teams do not even have the record of the number of patients with TB. Regarding the existence of individual record notification/investigation (FIN) of disease cases, the research found that the lack of people with TB in the territory would exempt the requirement of the existence of FIN in UBS. In this case, interviewers responded the option NOT APPLIED. However, the authors consider that this document should always be available in all health services, due to the requirement attributed legally in cases of infectious diseases according to the Ministerial Decree 1271 of 6 June 2014,[27] therefore the data collected cannot translate the reality of evaluated services, revealing a limitation in developing the research instrument.

The World Health Organization recognizes the TDO as a strategy to increase treatment adherence, reducing the medication multi-resistance and reducing the abandonment rate[5,23]. The low percentage of monitoring and active search of TDO missing found in this study are similar to that found by Alves et al[28] and corroborate the findings of Villa et al[10], with regard to incipient performance of TDO in Northeastern municipalities, revealing the fragility of ESF teams to incorporate this activity to the set of control actions carried out in AB.

As for the educational and health promotion actions, the results show that 1/3 of the teams do not perform these activities. Other studies[17,29] performed with ESF professionals also reported difficulties of the teams to promote health education actions. The devaluation of educational activities for these professionals in their work process, opposed to the guidelines of the National Policy of Primary Care[6] and portrays the difficulty of the team to develop guided activities in a health surveillance and health promotion.

Considering the perspective of patients, it is worth noting the positive assessment reported by patients to geographic access and operation of health units during the five days of the week. These results may be associated with expansion of the primary care network services stimulated by current policy that reorganizes the AB from the ESF.[6] On the other hand, the absence of doctors in UBS or neighborhood activities during operation of the unit, reported by 40% of patients, can be a negative factor for the diagnosis and treatment of TB patients[30], and overwhelm other professionals in some general attributions inherent in health team.[31]

Regarding the reception of patients in health services when they require the service spontaneously, there was a good level of satisfaction with the guidance provided by professionals. From this perspective, a study[32] reaffirms the importance of the team´s preparation and hosting in order to reduce the delay of diagnosis in respiratory symptoms, while another study[33] warned of the importance of valuing cultural aspects inherent to the disease and the patient, to organize care to tuberculosis in primary care.

It is admitted the possibility of information bias resulting of professional team selection, whose participating teams were those chosen by the management to present best organizational structure, leading to conjecture the existence of a less favorable real situation that presented. It is important to consider that the teams that joined the PMAQ-AB receive additional financial incentives of MS, which can influence professionals to omit negative aspects of their work process.

It is a study about the health services of AB in Rio Grande do Norte. It cannot be extended to all municipalities, but it is possible that the data represent northeastern cities or other regions with similar organizational characteristics.

It is believed that subsequent studies to other PMAQ-AB cycles, to deepen the knowledge of important points not revealed in this study, such as the execution of TDO and access to inputs, medication, tests and results.

CONCLUSION

Health teams assessed demonstrated to understand the importance of requesting the two main TB diagnostic tests. However, the lack of assistance protocols in a portion of health services, is as one of the main weaknesses in patient care, considering that these documents guide the EAB practices according to consensus established internationally. Other obstacles such as not monitoring the TDO, the lack of active search for missing patients to this strategy, flaws in the registration of TB cases, and the low realization of preventive and educational actions may jeopardize the successful treatment of patients, providing increased abandonment and hamper the monitoring and surveillance of tuberculosis cases.

Despite the difficulties highlighted from the view of the EAB, patients showed positive factors in access to health services and the reception and answers to spontaneous demands. However, the absence of the doctor at the clinic or on the external activities during the UBS operation associated with the other aforementioned obstacles may hinder comprehensive care and interdisciplinary work, promoting unfavorable epidemiological results.

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Corresponding Address

Ewerton William Gomes Brito
Programa de Pós-Graduação em Ciências da Saúde
Centro de Ciências da Saúde
Universidade Federal do Rio Grande do Norte
Av. Senador Salgado Filho, s/n
Campus Lagoa Nova
CEP 59072-970 – Natal (RN), Brazil