● **Original article**

STRATEGIES FOR TUBERCULOSIS CARE TRAINING

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ABSTRACT: Quantitative study that aimed to describe the components related to tuberculosis training that make health teams able to identify care strategies.A structured questionnaire was applied with 100 professionals in 27 Health Units of Natal, Rio Grande do Norte, between November 2013 and January 2014. The data were analyzed using the Statistical Package for the Social Sciencesversion 22.0. The results showed that 60% (n = 60) of the professionals often used the guidelines for the control of tuberculosis manual in the everyday practice; 73% (n = 73) stated that the involvement of tuberculosis specialists is accomplished by referral; 68% (n = 68) pass on the information about TB to all users and 44% (n = 44) of the training programs are carried out sporadically.It was concluded that there is the need to invest in systematic training involving specialists, aimed at the management and control of tuberculosis.
DESCRIPTORS: In service training; Tuberculosis; Primary healthcare; Health education; Patient care.

ESTRATÉGIAS PARA CAPACITAÇÃO AO CUIDADO EM TUBERCULOSE

RESUMO: Pesquisa quantitativa que objetivou descrever os componentes ligados à capacitação em tuberculose que tornam as equipes de saúde capazes de identificar estratégias de cuidado. Aplicou-se um questionário estruturado com 100 profissionais em 27 Unidades de Saúde no município de Natal, estado do Rio Grande do Norte, entre novembro de 2013 e janeiro de 2014. Os dados foram analisados pelo programa estatístico *Statistical Package for Social Sciences* versão 22.0. Os resultados mostraram que 60% (n=60) dos profissionais utilizaram frequentemente o manual de diretrizes para o controle da tuberculose integrando a prática cotidiana; 73% (n=73) afirmaram que o envolvimento de especialistas em tuberculose é realizado por meio de referenciamento; 68% (n=68) repassam as informações sobre tuberculose a todos os usuários e 44% (n=44) das capacitações são realizadas esporadicamente. Conclui-se que há a necessidade de investimento em capacitação sistemática envolvendo também especialistas, visando o manejo e controle da tuberculose.
DESCRITORES: Capacitação em serviço; Tuberculose; Atenção Primária à saúde; Educação em saúde; Assistência ao paciente.

ESTRATEGIAS PARA CAPACITACIÓN AL CUIDADO EN TUBERCULOSIS

RESUMEN: Investigación cuantitativa con objeto de describir los componentes vinculados a la capacitación en tuberculosis que hacen los equipos de salud capaces de identificar estrategias de cuidado. Fue aplicado un cuestionario estructurado a 100 profesionales en 27 Unidades de Salud en el municipio de Natal, estado de Rio Grande do Norte, Brasil, entre noviembre del 2013 y enero del 2014. Los datos fueron analizados en el programa estadístico *Statistical Package for Social Sciences* versión 22.0. Los resultados mostraron que 60% (n=60) de los profesionales utilizaron frecuentemente el manual de directivas para el control de la tuberculosis integrando la práctica cotidiana; 73% (n=73) afirmaron que el involucramiento de especialistas en tuberculosis se hace mediante referencia; 68% (n=68) transmiten las informaciones sobre tuberculosis a todos los usuarios y 44% (n=44) de las capacitaciones ocurren esporádicamente. Se concluye que son necesarias inversiones en capacitación sistemática, involucrando también especialistas, visando al manoseo y control de la tuberculosis.
DESCRIPTORES: Capacitación en servicio; Tuberculosis; Atención Primaria de salud: Educación en salud; Atención al paciente.

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● **INTRODUCTION**

Professional training constitutes an important tool for the management and control of Tuberculosis (TB), assisting health professionals in patient care and early detection of the disease.

Currently, there is an unquestionable need for the health services to empower their professionals. In the everyday practice difficulties are observed forintervening effectivelyin community health problems[1].

Training means ensuring the use of the skills of professionals and in this way enhancing their knowledge to deal with certain situations. However, professional training occurs sporadically in the services and most often occurs together with the work, which results in a lack of availability of time and motivation to carry out this activity.Thus, continuing education is a necessary strategy that services should provide in order to train and empower employees, because, as well as motivating the pursuit of the qualification, it provides the opportunity for professional and personal development[2].

Investment in training of workers can ensure the successful planning of actions undertaken in promoting or restoring the health of the population.

Regarding TB, professional training consists of ensuring the comprehension of the disease and its determinants, its prevention, early identification of cases, control of the disease including supervised treatment and smear testing of respiratory symptomatic individuals (RSIs)[1,3-4].

In the field of TB, health professionals need to be alert for RSIs, considering the involvement of this pathology in thousands of people, constituting a public health problem. Despite strategies to control the disease, there are still high rates of incidence and mortality[5]. Brazil represents one of the 22 countries prioritized by the World Health Organization (WHO), with the concentration of 80% of the worldwide TB load, an estimated 50 million people infected and 109,672 new cases and 6,000 deaths per year. In 2012, approximately 8.6 million people developed TB and 1.3 million died, including 320,000 deaths of Human Immunodeficiency Virus (HIV) positive individuals, mostly men[6].

A total of 71,123 new cases of TB were diagnosed in Brazil in 2013, accounting for an incidence rate of 35.4/100,000 inhabitants and mortality rate of 2.3/100,000 inhabitants[7].

To improve the epidemiological and operational indicators in TB, it is essential to invest in periodic training programs, which can contribute to the management and control of this disease.However, there are other factors involved, including the commitment of each professional[8] and the interest of the patients in cooperating with their treatment. The aim of this study was to describe the components related to TB training, which make the health teams able to identify care strategies.

● **METHOD**

This was a quantitative, descriptive study, carried out in the municipality of Natal, Rio Grande do Norte state.The estimated population of the city is 862,044 inhabitants[9], has a 50% coverage of the Family Health Strategy (ESF) and has 60 Health Units, these being 23 Primary Health Units (UBS) and 37 Family Health Units (USF) distributed in five Health Districts (DS): North I and II, South, East and West[10].

In relation to TB, in 2013 the municipality obtained: 56.9% cure rate, 28.7% of Directly Observed Treatment (DOT), 48.4% of HIV test performed among TB cases and an incidence of 57/100,000 inhabitants[11].

The Municipal Health Department (HSE) of Natal carried out a survey to obtain the quantity of human resources, by professional category: physician, nurse, nursing assistant and/or nursing technician and Community Health Agent (CHA) working in Primary Health Care (PHC) and accompanying TB cases, totaling 384 professionals.A random sample was used, considering P (Population ratio) = 0.5, CI (confidence interval) = 95% and a sampling error of 5% for a total n = 100 PHC professionals.

The inclusion criteria established were: health professionals working during the data collection

period, who had followed cases of TB during treatment. No exclusion criteria were established.

In each Health Unit four health professionals were chosen, one per category: physician, nurse, nursing technician and CHA. If any professional refused, they were replaced to complete 100 health professionals. A total of 32 refusals were obtained, by 17 physicians, one nurse, 12 nursing technicians and two CHAs.

A structured questionnaire was applied in 27 units, between November 2013 and January 2014. The choice of units occurred from a random draw considering those in which the professionals had accompanied cases of TB. Those who agreed to participate were informed about the study and its aims by the researchers, with them signing the consent form. Data collection was performed in a private place in the Health Unit.

The instrument used was proposed by the MacColl Institute for Health Care Innovation; adapted and validated in Brazil[12] for the "assessment by professionals of local institutional ability to develop the care model for chronic conditions" for TB care.It is divided into 07 dimensions:I- Organization of tuberculosis care; II- Articulation with the community; III- Supported self-care; IV- Decision support; V- Design of the service provision system; VI- Clinical information system; VII- Integration of the components of the model of care for people with TB.Dimension IV was the focus of this study, which consists of 04 components: guidelines for TB control manual at the Health Unit; involvement of TB specialists, who were not part of the team, in supporting the health professionals of the Unit; training of the health professionals in TB care; and informing people about TB.

The responses obtained were classified into 04 levels (D, C, B, A), which were represented by values ranging from 0 to 11. Level D corresponded to the worst level with scores from 0 to 2; C, 3 to 5, B, 6 to 8; and A, the most favorable, from 9 to 11.

Interpretation of the results took place as follows: limited ability to care for people with TB, with scores of 0 to 2; basic ability from 3 to 5; reasonable ability from 6 to 8; and optimumability, with scores from 9 to 11. Calculated from the arithmetic mean of the sum of the responses of the dimension, divided by the total number of components.

Data were analyzed using the Statistical Package for the Social Sciences (SPSS), version 22.0, program.

The research project was approved by the Ethics Committee of the Federal University of Rio Grande do Norte, under authorization number: 456.332, dated: 01/11/2013 and CAAE: 18751132.1001.5537, following Resolution 466/12 of the National Health Council[13].

● **RESULTS**

A total of 100 professionals participated in this study: 35 nurses, 22 nursing technicians, nine physicians and 34 CHAs. Of the interviews performed, 80% (n = 80) were answered by FHS professionals, 18% (n = 18) by those of PHUs and two (2%) from a Mixed Unit. It was found that 41% (n=41) had worked in the unit for more than 10 years, 29% (n=29) had worked from 6 to 10 years, 23% (n = 23) from 1 to 5 years and seven (7 %) less than 1 year.Regarding the professional category, 79% (n=79) of the CHAs had worked for more than 10 years, 14% (n=14) of the physicians from 6 to 10 years, four (4%) of nursing technicians from 1 to 5 years and three (3%) of the nurses less than 1 year.

It was observed that among the 100 participants, the majority, 46% (n=46), reported basic and reasonable training with respect to the care of patients with TB, including the care and treatment of the disease, as shown in Table 1.

Regarding the classification of the components linked to the TB training that make the health teams able to identify care strategies, the data presented in Table 2 shows that the components that achieved optimum ability were guidelines for TB control manual in the Health Unit, 60% (n=68), and informingpeople about TB, 68% (n=68); with those of limited ability being: involvement of TB specialists, who were not part of the team, in supporting the health professionals of the Unit, 73% (n=73), and training of the health professionals in TB care, 44% (n=44).

Table 1 - Judgment by the Primary Health Care professionals according to the care provided to patients with tuberculoses. Natal, RN, Brazil, 2014

Judgment by the Primary Health Care professionals according to the care provided to patients with tuberculoses		
Ability	n	%
Limited	3	3
Basic	46	46
Reasonable	46	46
Optimum	5	5
Total	100	100

Table 2 - Classification of the components linked to tuberculosis training that make the health teams able to identify care strategies. Natal, RN, Brazil, 2014

Components	Ability Limited		Ability Basic		Ability Reasonable		Ability Optimum		Total	
	n	%	n	%	n	%	n	%		
Guidelines for TB* control manual	8	8	9	9	23	23	60	60	100	100
Involvement of TB* specialists that were not part of the team	73	73	20	20	4	4	3	3	100	100
Training of the health professionals in TB* care	44	44	16	16	28	28	12	12	100	100
Informing people about TB*	11	11	10	10	11	11	68	68	100	100

TB* - Tuberculosis

Regarding the guidelines for TB controlmanual, 60% (n = 60) of the professionals considered the ability to be optimum, with this being available in the Unit and used often by the health professionals, being integrated into the everyday practice in TB care, eight (8%) scored this as limited, i.e. the manual was not available, with the belief that the professional used it to provide information about TB to the patients.

In relation to the involvement of TB specialists, who were not part of the team, in supporting the health professionals of the Unit, 73% (n=73) of the professionals classified this as limited ability, with the contact with the specialist made through by traditional referral/forwarding. Three (3%) gave this optimum ability, due to periodic participation of specialists who assisted in the continuing education process and discussed cases with the team.

Regarding the training of the health professionals in TB care, 44% (n = 44) reported having limited ability, i.e., the training was carried out sporadically. Only 12% (n=12) reported having optimum ability, with training carried out systematically, through educational methods that promoted effective incorporation of TB control actions into the daily practice of Health Unit, including the entire team of professionals.

Considering the information provided to individuals about TB, 68% (n=68) of the professionals classified this as optimum ability, being provided to all the users, and including the role of each individual in the prevention and treatment of TB.While 10% (n=10) reported it having basic ability, performed through written information (folders, posters, etc.), only when the TB patients requested it.

● DISCUSSION

The working time of the health service professionals is an important tool to strengthen the bond and trust with the users. The majority of the professionals working in PHC had been in the service for over 10 years, similar to the results of another study[14]. Regarding the professional category, it was found that the CHAs were the professionals who had worked longer exercising their function.

The turnover of professionals in health services influences the service, which is observed through the break in the maintenance of the already qualified teams in a particular health service[15], which can compromise the systematic monitoring of the TB patients. The time working in the unit, along with the professional qualification, can promote early diagnosis and consequently the healing of the individual.

The qualification of the professionals has an impact on the incorporation of TB control actions, as many become responsible for programs that were never beforeimplemented[3].

The majority of the professionals had knowledge about the activities of the National Tuberculosis Control Program (NTCP)[16], which are: registration of the user, planning activities, team meetings, activity reports, analysis of the report and supervision of activities. One study showed a lack of knowledge about the supervision of activities[17]. However, lack of training, delays in laboratory results, lack of specialist physicians and nurses that are dedicated to the NTCP, lack of materials and delay in scheduling examinations, were also occurring in the patient support networks, thus preventing the completion of the outpatient treatment[18].

As well as the people not knowing how to identify the signs and symptoms of TB, the professionals are not prepared for this, thus hindering a correct diagnosis and early treatment as brief as possible, consequently preventing the spread of the disease[19].

In this study, it can be seen that the professional training needs to be improved to achieve an optimal level of ability to diagnose and treat patients.

According to data presented in one study, it was found that 86% (n = 286) of the professionals were trained, however, only 69.5% (n = 286) had sufficient training to carry out TB control actions[4], which corroborates this study.

The knowledge acquired during the undergraduate program is not sufficient to detect TB early and effectively intervene in the control of the disease[1]. The ineffectiveness of information from the health professionals, about mode of transmission, signs and symptoms, contributes to late diagnosis of the disease[5]. Therefore, there is a need for professionals and managers to recognize that health training is necessary in the services[1].

In this study it was observed that the health professionals classified the professional training as limited, however, the majority made use of the guidelines for TB control manual.

Social science authors report that when following a clinical protocol, it becomes easier to achieve the results and objectives set, as there is better control of all activities and actions to be performed in the service[17].

It should be noted that the Health Units should not only follow the routine established in the service. It is important that health professionals are more accessible to the epidemiological and social realities of the territory, breaking with the programmatic logic of establishing needs[20].

A deficit can be observed in the daily professional practice, related to the TB actions, regarding the involvement of specialists in the course of the treatment and the accumulation of nursing activities.

A study with 81 patientsshowed that 98.77% (n = 80) were never referred to specialists by health professionals nor was there any discussion of possible care places. The study also reported that 94.05% (n=79) of the 84 health professionals never discussed the results of the consultation with specialists, nor sought to know how the carewent[21]. This suggests that the involvement of specialists in TB control is limited and may be related to the scarcity of human resources, as well as the involvement among the health professionals.

Establishments that have trained staff, with educational activities aimed at TB, are likely to present a better comprehension of this disease and its determinants, thus being able to diagnose, treat, prevent and control it. The co-responsibility of the patient in the health-disease process is also important, as the cure does not depend only on the professionals that monitor it.

The lack of educational activities related to TB and its treatment fails to motivatethe patients to seek changes to promote their health. However, the health teams should include educational actions that are not only restricted to providing the pamphlets and lectures but create a dialogue that promotes

team/user proximity[22].

Knowledge about TB, access to information through the media and schools and educational interventions are of fundamental importance in order to reduce stigma and the impact of the social consequences of TB. Furthermore, the development of continuing education programs in health, designed to increase the level of knowledge in the population and improve the access of the patients to the health services for the early diagnosis of the disease is also necessary[23].

● **CONCLUSION**

From this study, it was possible to describe the components related to training in TB, that make the health teams able to identify care strategies from the perspective of the PHC professionals.

The professionals had access to the guidelines for TB control manual, as part of their everyday practice, favoring the transfer of information to all users of the Health Unit, including the role of each individual in the prevention and treatment of TB.In contrast, it was observed that there was a deficit in the training requirement, with this being performed sporadically.There was also a deficit related to support from TB specialists for the PHC teams.

The management guidelines and protocols and the participation of specialists and health educators are important elements for the healthcare teams to identify effective care strategies.

It is worth noting the importance of investment by the government bodies, in periodic training for PHC professionals in TB control actions, in order to improve the care provided to patients with this pathology.

As a limitation of the study, the difference in quantity of the professionals by professional category should be highlighted, which prevented inferencesrelated to the categories of the population.

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