The front door of the Ribeirão Preto Health System for diagnosing tuberculosis*

A PORTA DE ENTRADA PARA O DIAGNÓSTICO DA TUBERCULOSE NO SISTEMA DE SAÚDE DE RIBEIRÃO PRETO/SP

PUERTA DE ENTRADA PARA EL DIAGNÓSTICO DE TUBERCULOSIS EN EL SISTEMA DE SALUD DE RIBEIRÃO

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ABSTRACT

The first contact of TB (tuberculosis) patients with the health system occurs at the front door and is essential to access to diagnosis. The objective of this study was to identify and analyze patients' first contact with the health system for TB diagnosis in Ribeirão Preto. The study was based on an instrument of the Primary Care Assessment Tool, adapted for TB care in Brazil. Structure interviews were conducted with 100 TB patients diagnosed between June 2006 and July 2007. Of all patients, 61% were referred to the diagnosis place and only 29% sought the service spontaneously; 66% sought for primary care services, and 34% for secondary and tertiary services. Public services diagnosed 89% of all cases, 44% of which were diagnosed in emergency services. A total 88% of patients were not from the area covered by the service. Although patients have sought for primary care services, close to their houses, the diagnosis occurred in secondary and tertiary health care.

DESCRIPTORS

Tuberculosis
Diagnosis
Health Services Accessibility
Primary Health Care
Public health nursing

RESUMO

O primeiro contato do doente de tuberculose (TB) com o sistema de saúde se dá na porta de entrada, e é fundamental para o acesso ao diagnóstico. Objetivou-se identificar e analisar a porta de entrada no sistema de saúde de Ribeirão Preto para o diagnóstico da TB. Baseou-se em um instrumento do Primary Care Assessment Tool, adaptado para a TB no Brasil. Realizou-se entrevista estruturada com 100 doentes de TB diagnosticados entre Junho de 2006 e Julho de 2007. Destes, 61% chegaram ao local de diagnóstico por encaminhamento e apenas 29% se apresentaram espontaneamente; 66% procuraram por serviços de atenção primária, 34% por serviços de nível secundário e terciário. Ademais, 89% foram diagnosticados em serviços públicos e destes, 44% foram diagnosticados nos pronto-atendimentos. Além disso, 88% foram diagnosticados fora de sua área de abrangência. Apesar dos doentes terem procurado atendimento na atenção primária e mais próximo de suas residências, o diagnóstico se deu na atenção secundária e terciária.

DESCRITORES

Tuberculose
Diagnóstico
Acesso aos Serviços de Saúde
Atenção Primária à Saúde
Enfermagem em saúde pública

RESUMEN

El primer contacto del enfermo de tuberculosis (TB) con el sistema de salud acontece en la puerta de entrada y es fundamental para acceder al diagnóstico. Se objetivó identificar y analizar la entrada al sistema de salud de Ribeirão Preto para diagnóstico de TB. Se usó un instrumento del Primary Care Assessment Tool, adaptado para TB en Brasil. Se realizó entrevista estructurada con 100 pacientes de TB diagnosticados entre junio/2006 y julio/2007. 61% de los enfermos llegó al lugar de diagnóstico por derivación, apenas 29% se presentó espontáneamente. 66% solicitó servicios primarios, 34% procuraron servicios secundarios y terciarios. 89% fue diagnosticado en servicios públicos, de ellos, 44% fue diagnosticado en los servicios de urgencia. 88% fue diagnosticado fuera del área urbana correspondiente. A pesar de que los enfermos buscaron atención en el servicio de urgencias más próximo a sus domicilios, el diagnóstico se dio en atención secundaria y terciaria.

DESCRIPTORES

Tuberculosis
Diagnóstico
Accesibilidad a los Servicios de Salud
Atención Primaria de Salud
Enfermería em salud pública

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INTRODUCTION

Tuberculosis represents a major health problem in developing countries[1]. Brazil occupies the 18th place, regarding incidence of the disease, among the 22 countries responsible for 80% of the global tuberculosis burden. The country has 92,000 new TB cases per year, with an incidence of 48 cases per 100,000 inhabitants and a prevalence of 60 cases per 100,000 inhabitants. Infectious cases reach 49,000 per year, multi-drug resistant strains represent 0.9% of the cases and the number of deaths from the disease is 8.4 thousand per year, representing a mortality rate of 4.4 per 100,000 people[2]. The report by the World Health Organization (WHO) notes that, in 2007, Brazil presented a case detection rate of 78%, within the established target, however, the cure rate of active tuberculosis was 73%, below the assigned target[2]. The cure rate of TB is closely linked to the delay in the diagnosis of the cases of the disease. Some time ago the WHO indicated that the problem persists not because of the forms of diagnosis and treatment of the disease, but because of the way the health services are organized to detect and treat TB cases[3]. The increase in the delay in the performance of the diagnostic test and initiation of the treatment leads to an increased risk of disease transmission, especially in urban environments, and this condition of the healthcare services reduces the chance of a cure for the TB patient. Factors related to the patient and the health services can contribute to this delay in the performance of the TB diagnosis and many of these are interlinked to the organization of the health services, whether public or private[4-5]. Studies carried out in different places such as Shanghai, Spain, Hong Kong and Brazil have shown that some of these factors are related to the kind of health service sought by the TB patient, the type of service that performs the diagnosis and the diagnostic tools employed by the healthcare service [4,6].

The theoretical framework that guided the discussions of this study was the Primary Healthcare (PHC) and one of its attributes, the Point of Entry proposed by Starfield[7]. According to the author PHC can be defined as the level of care of the health system that functions as Point of Entry for all the health needs of the people. Primary healthcare addresses the most common problems of the community, offering services of promotion, prevention, cure and rehabilitation. It is responsible for coordinating, organizing and rationalizing the use of all resources, both basic and specialized, aimed at the promotion, maintenance and improvement of health[7].

The first contact of the TB patient with the health system is crucial to ensure access to the disease diagnosis, with this occurring at the point of entry of the system. Although the concept of the point of entry is not clearly defined, it is comprehended as the place or the professional being sought as a first point of care for each new health problem perceived, it is the site of first contact within the health system[7]. In Brazil the National Policy of Primary Health Care (NPPHC) established that the Primary Healthcare (PHC) services, represented by the Basic Health Units (BHUs) and the Family Health Units (FHUs) should assume this function[8].

The first contact of the Tuberculosis patient with the health system is crucial to ensure access to the disease diagnosis, with this occurring at the point of entry of the system.

The present study aimed to analyze the point of entry of the TB patient in the access to the diagnosis in the municipality of Ribeirão Preto - SP.

OBJECTIVE

To identify and analyze the point of entry into the health system of Ribeirão Preto for the diagnosis of TB.

METHOD

This study is part of the multicenter project *Evaluation of the organizational dimensions and performance of the primary healthcare services in tuberculosis control in regions of Brazil* and is a prospective epidemiological survey. It was developed between July and August 2007 in Ribeirão Preto, a municipality with 547,417 inhabitants, 189 new TB cases in the year, and an incidence coefficient of 34.5 cases per 100,000 inhabitants. The cure rate was 78.7% and Directly Observed Therapy coverage reached 77.7%. The TB Control Program (TCP) is developed in five health districts (North, South, East, West and Central), with permanent, but not exclusive teams. The diagnosis of TB can be accomplished at any care point of the municipality and other TB control actions (medical and nursing consultations, monitoring of the case, distribution of medication, control of transmitters and DOT) are performed by the TCP.

During the period of data collection, 133 patients were in treatment. A convenience sample was selected of 100 patients, over 18 years of age, residing in the municipality, and not in the prison system. The research was conducted on the basis of the adaptation of a component instrument of the Primary Care Assessment Tool (PCAT), developed and validated to assess the critical aspects of primary healthcare[7]. This instrument was adapted and validated for Primary Healthcare in Brazil[9] and adapted for TB care[10]. Seven variables were used, related to the point of entry of the TB patient into the health system, namely: manner of presentation at diagnosis, frequency of demand for primary healthcare service before the diagnosis; demand for emergency unit/hospital before the diagnosis; demand for the health unit near to the residence; demand for the public or private health service; type of health service where the diagnosis was performed ; diagnosis performed within or outside the catchment

area. The instrument was divided into two parts, with the first part containing socio-demographic information and the addresses of the patients and the second part having questions related to the point of entry. Data from the first part of the instrument were collected from the TB information system TB-WEB and to collect the data from the second part, interviews were conducted with the patients. The interviewees answered each item using a Likert scale ranging from one to five. The authors created an indicator for each question and it corresponds to the average value obtained by summing all the answers of the interviewees and dividing by the total of respondents.

The data were arranged in a data entry table using the software Statistica 7.0 from StatSoft. To identify the health services of the catchment area of the patient georeferencing of the addresses was performed for the TB patients who participated in the study and for the health services of the municipality of Ribeirão Preto, including the PHUs, District Basic Health Centers (DBHCs), Basic Health Units (BHU), Family Health Units (FHUs), reference outpatient clinics (ROs) and public hospitals. A descriptive analysis of the variables was performed, with construction of graphs of the relative and absolute frequency. The project was approved by the ethics committee of the School of Nursing of Ribeirão Preto - University of São Paulo, under protocol No. 0762/2007. The interviews were only conducted after the reading and signing of the terms of consent by the interviewees.

RESULTS

Figure 1 shows how the patients came to the health service that performed the TB diagnosis. It is observed that the majority of TB patients (61%) arrived at the site of diagnosis through referral by other health services or health professionals due to suspicion of the disease. Only 29% of the patients presented themselves spontaneously to the service that performed the diagnosis. The case finding for respiratory symptomatics was little emphasized, because only 3% of the patients were diagnosed in this way.

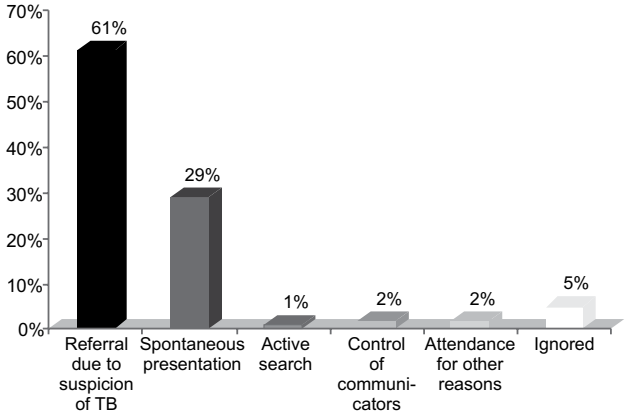

Figure 1 - Distribution of the TB diagnosed patients according to the form of presentation for the diagnosis - Ribeirão Preto - 2006 - 2007

Figure 2 demonstrates the types of health services sought by the TB patients as the point of entry into the system, when the symptoms of the disease began. The authors observed that most of the patients (66%) sought primary healthcare services as a point of entry as recommended by NPPHC, but there was still a large percentage (34%) that sought secondary and tertiary level services (emergency units and hospitals).

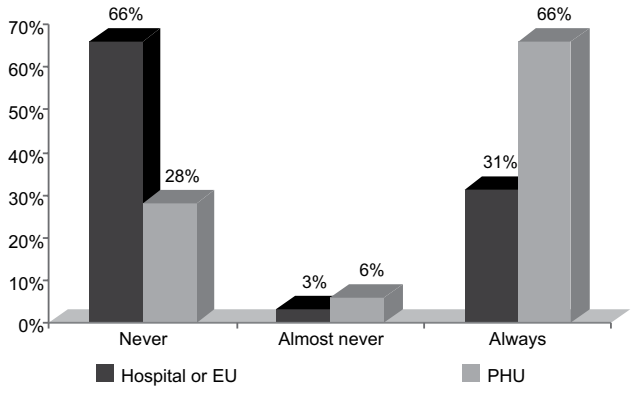

Figure 2 - Distribution of the patients according the frequency with which they sought health services when the TB symptoms began - Ribeirão Preto - 2006-2007

Figure 3 presents the frequency with which the patients sought health services in their area of catchment at the moment of first contact when the TB symptoms began. Of the patients interviewed, 59% always sought health services in their area, i.e. the closest to their residence, and 38%, a considerable percentage, never sought the services closest to their residence.

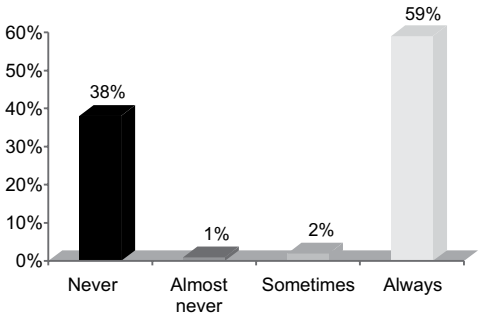

Figure 3 - Distribution of the TB patients according to the frequency with which they sought a health unit in their area of coverage for the diagnosis of the disease - Ribeirao Preto - 2006-2007

Figure 4 presents the types of services that performed the diagnosis of the TB patients and whether these services are located within or outside the area of catchment of the patients. Regarding the nature of the service, 89% of the patients were diagnosed in public health services and only 11% in private services. Of the patients diagnosed in private services, 6% were diagnosed in private hospitals and the other 5% in private clinics. Of the 89% diagnosed in public services, it was observed that 48% were diagnosed in District Basic Health Centers (DBHCs),

and 44% were diagnosed in emergency units of the DBHCs (DBHC–EU) and 4% in the primary healthcare units of the DBHCs. A total of 20% were diagnosed in public hospitals and 12% in PHUs. The outpatient referral clinics were responsible for the diagnosis of 9% of the patients. The diagnoses of the patients were conducted primarily in secondary and tertiary level units (DBHC-EU), outpatient referral clinics and hospitals), totaling 73% of all the diagnoses performed. The primary healthcare service was less representative in the diagnosis of the TB cases studied, with a total of only 16% of the cases. Concerning the location of the health services, 88% of the patients were diagnosed in services outside their area of catchment and only 12% were diagnosed in the services closest to their residence.

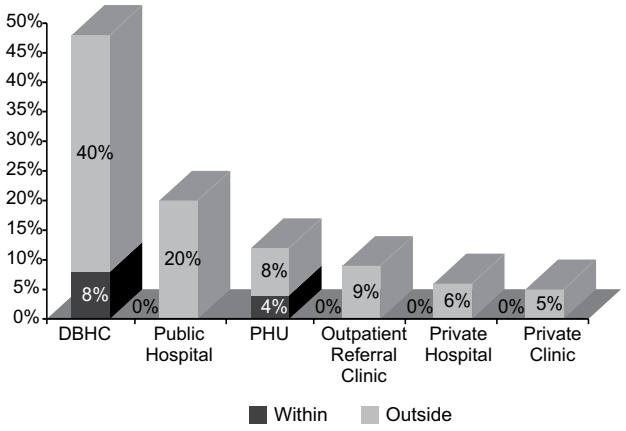

Figure 4 - Distribution of the TB patients according to area of catchment (within or outside) and place of diagnosis - Ribeirão Preto - 2006-2007

DISCUSSION

Figure 1 shows how the patients presented themselves to the health services that had diagnosed the TB. According to the data 61% of the patients were referred from other health services. This means that these patients had sought health services with symptoms of TB, however the health professionals referred them to other services for the performance of the diagnosis, contrary to the principle of decentralization of TB actions of the NPPHC[8]. This could be due to quantitative and qualitative deficiencies in human resources in the primary healthcare service, to the overload of duties, and to the inadequate training of the health professionals to deal with TB[11]. For the preparation of the health professionals it is necessary to implement concrete actions in the universities and medical schools, with enough time for teaching theory and practice in the field, and through the collaboration of specialist physicians and scientific societies. Additionally, this preparation should occur continuously through training programs. However, the difficulty that exists in this training program is highlighted due to the impossibility of the participation of most of the health professionals, who often cannot be allowed to leave their sectors because of the limited availability of human resources. The lack of opportunity to conduct training for the health professionals leaves them unprepared for the management of TB and for attending to the national protocols of diagnosis and monitoring of the patients[12]. A study conducted in Ribeirão Preto highlighted the decentralization of the TCP actions as a strengthening force that would facilitate access for the TB patients to the health services[13]. However, other authors point out that decentralization may bring risks, such as the lack of accountability on the part of health professionals[14].

Regarding the types of health services sought by the TB patients as a point of entry into the health system, shown in Figure 2, it was observed that the majority of patients (66%) always sought primary healthcare services to obtain their first consultation. However there was a considerable percentage of patients (31%) who sought secondary or tertiary services (emergency unit or hospital) for obtaining the first consultation for the diagnosis of TB. The selection of the patients according to the searching for emergency units or hospitals is based on past experience with certain health services and on cultural aspects. Many patients believe that hospitals and emergency units (EU) are sites that have better infrastructures to diagnose and treat health problems and therefore they rely more on such services. For others the preference for the hospitals and the EU arises from the restricted hours of operation of the primary healthcare services[15].

Figure 3 shows that a sizable percentage (38%) of the patients preferred to seek health services more distant from their domiciles or outside of their coverage area. This may be related to the fact that the patients sought hospitals or EUs in order to be treated. One factor that can lead patients to search for more distant services is the stigma of the disease. Patients are afraid of being discovered as having TB and of acquaintances knowing of their health problem. TB is still a disease that causes embarrassment to patients, because people do not understand its mode of transmission and because it has a strong link with HIV[16].

With respect to the sites of diagnosis indicated in Figure 4, it can be observed that the private services accounted for only 11% of the diagnoses performed. Although still a low percentage, this sector has increased its TB case detection. Two reasons can explain this low percentage of TB diagnosis in the private sector: The difficulty of the professionals of this sector to recognize TB when consulted by respiratory symptomatics; and the fact that TB still affects the more economically disadvantaged populations that do not possess the financial conditions for consultations in private services[13,17]. Different authors report that the fact of the patient being attended in private services leads to an increase in the time for the performance of the TB diagnosis. Some factors identified by the authors are the diagnostic methods used by these services, primarily the use of X-ray, the fact that often they are unaware of the policy of tuberculosis control, not receiving financial in-

centives to control TB and not suspecting TB due to the socio-economic characteristics of the patients who use them[1,5].

Professionals from the private health sector have difficulty in recognizing TB. There is still a very strong association between TB and poverty, and as most patients who seek the private health services have a stable financial situation few physicians believe in the possibility of TB[1]. There is a need for integration between the public and private sectors, promoting in the latter the divulgation and correct application of the TB control measures, improving access to the diagnosis for the population assisted in this sector, since it represents an increasingly frequent point of entry of the TB patients. Also in Figure 4, the participation of the different levels of healthcare in the diagnosis of TB can be observed. The figure shows that the highest participation, in relation to the public sector, was by the secondary care services represented by the emergency units and outpatient referral clinics and by the tertiary care services, represented by the hospitals, which if added together represent 73% of the patients diagnosed. The PHUs and the FHUs represented only 16% of the diagnoses performed. Another result identified in Figure 4 was that 88% of the patients were diagnosed in health services located outside their area of catchment, only in 12% did the diagnosis occur within the area of coverage. This shows that many patients are diagnosed in the secondary and tertiary healthcare levels, since these services are not point of entry references and often require that the patient be referred to them by a primary healthcare service. According to the NPPHC, TB should be one of the priorities in the PHC services, and the patients should be diagnosed at this level of care due to these services being the closest to the population.

The results showed, through figures 2, 3 and 4 together, that the majority of the patients sought assistance in primary healthcare services when they started feeling ill (66%), but the minority of the patients were diagnosed by the primary healthcare services (16%). In addition, the majority of the patients sought assistance in the service of their coverage area, the nearest to their residence (59%), but only 12% were diagnosed within their catchment area. This means that even though the patients had sought attendance in the primary healthcare and the one closest to their residences, the resolvability was in fact made in the secondary and/or tertiary healthcare services, and in services outside their areas of coverage. These data show that significant quantities of patients are not being diagnosed by the primary healthcare services, but by the emergency services and hospitals. These services, by the very logic of the operation, must have the easiest access compared to the others, due to their hours of functioning and because they do not require pre-booked appointments for treatment of the patient, thus providing a fast service[18]. In a study conducted in Spain it was found that a factor related to a longer delay in the TB diagnosis was the fact that the symptomatic patient sought primary healthcare units which were not prepared for the performance of the diagnosis of the disease. In the same study, the fact that the patient with TB symptoms sought the hospital for care represented a decrease in the time between the onset of the symptoms and the diagnosis of the disease[5].

The primary healthcare services are based, in most cases, on spontaneous demand, a model in which the individual with Tuberculosis is expected to seek health service if they perceive any sign or symptom of the disease[19]. However, in the space of time between the perception of the symptoms and the diagnosis, many factors may intervene, meaning that the patient may remain longer without treatment, worsening their condition and spreading the disease in the community[20]. Often, when the symptoms are perceived, the patient is already in a more advanced stage of the disease and, when seeking healthcare, ends up being hospitalized, where the TB will then be diagnosed[21]. It is believed that many cases of tuberculosis remain undiagnosed, either because there is a lack of access to health services even with Directly Observed Therapy[22-23], or due to the fact that the health professionals are inattentive to respiratory symptomatics[13]. This demonstrates the fragmented care model, which overestimates the specialty, not paying attention to the issues of health promotion and prevention of disease, valorizing only the curative actions[12]. Due to the failures in the case finding process and diagnosis of TB cases, many patients are not diagnosed in the early phases of the disease and are referred in a more advanced phase, necessitating hospitalization due to poor general health status and to cachexia, which makes the local hospitals sites of increasingly more frequent access to the diagnosis[21].

CONCLUSION

Although the majority of patients sought assistance in PHUs and services near their residence when the symptoms of TB began, the diagnosis of most of the patients was performed in emergency units (44%) and in hospitals (26%). Furthermore, there was a predominance of diagnoses performed outside the area of coverage. The representativeness of the private services and of primary healthcare in the diagnosis was low. The research results indicated that there are various elements which contribute so that the care dispensed in the Primary Healthcare does not address the resolvability, confirming that the disease still remains a public health problem. One of the crucial points is the form of organization of the health services in the local ambit, which has valorized the logic in the care to the spontaneous demand over the need to reorganize according to the prism of the chronic conditions that require resolvability in the care and training of professionals to deal with diseases that involve multiple health care aspects, such as: cultural, social, and economic aspects and subjectivities.

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