ABANDONMENT OF TUBERCULOSIS TREATMENT IN THE PERSPECTIVE OF HEALTH CENTERS MANAGERS IN BELO HORIZONTE-MG, BRAZIL[1]

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ABSTRACT: The Brazilian National Tuberculosis Control Program requires the organization and proper functioning of health services to meet the principle of intregality, one of the pillars of the Brazilian Unified Health System and the most important orientation for tuberculosis control. This study aims to investigate, in the perspective of nine managers of health centers in Belo Horizonte, MG, Brazil, aspects concerning the functioning of the services they coordinated, associated to noncompliance with tuberculosis treatment and the feasibility of meeting Program guidelines. Data were collected through semi-structured interviews and interpreted by means of thematic content analysis. Reports indicate that health services did not comply with the integrality orientation, requiring better organization and continuing education processes of health professionals to deal with abandonment and to develop new alternatives to improve treatment adherence and compliance.

DESCRIPTORS: Health centers managers. Qualitative research. Tuberculosis. Treatment abandonment.

O ABANDONO DO TRATAMENTO DA TUBERCULOSE SOB A PERSPECTIVA DOS GERENTES DE DIFERENTES CENTROS DE SAÚDE DE BELO HORIZONTE-MG, BRASIL

RESUMO: O Programa Nacional de Controle da Tuberculose requer a organização e adequado funcionamento dos serviços de saúde para o cumprimento do princípio de integralidade do Sistema Único de Saúde, um dos pilares para o controle da doença. Este estudo qualitativo objetivou investigar, sob a perspectiva de gerentes de Centros de Saúde de Belo Horizonte-Minas Gerais, aspectos relativos ao funcionamento dos serviços que coordenam face ao abandono do tratamento da tuberculose e a viabilidade de cumprir as diretrizes do Programa de Controle da doença. Os dados foram coletados através de entrevistas semiestruturadas e interpretados pela Análise Temática de Conteúdo. Os relatos indicam que os serviços ainda não cumprem a perspectiva da integralidade, requerendo melhor organização e processos de educação permanente das equipes para enfrentar o abandono e elaborar novas alternativas para ampliar a adesão e conclusão do tratamento.

DESCRITORES: Gestores de saúde. Pesquisa qualitativa. Tuberculose. Abandono de tratamento.

EL ABANDONO DEL TRATAMIENTO DE TUBERCULOSIS EN LA PERSPECTIVA DE DIRECTORES DE CENTROS DE SALUD DE BELO HORIZONTE-MG, BRASIL

RESUMEN: El Programa Nacional de Control de la Tuberculosis en Brasil requiere la organización y funcionamiento de los servicios de salud para cumplir con el principio de la integralidad del Sistema Único de Salud, uno de los pilares para el control de la enfermedad. Este estudio tuvo como objetivo investigar desde la perspectiva de nueve administradores de centros de salud en Belo Horizonte, Minas Gerais, Brasil, los aspectos relativos al funcionamiento de los servicios que coordinan asociados con el abandono del tratamiento de la tuberculosis y la viabilidad para cumplir con las directrices del Programa. Los datos fueron recolectados a través de entrevistas semi-estructuradas e interpretados por análisis de contenido temático. Los informes indican que los servicios no cumplen con la perspectiva de la integralidad y requieren una mejor organización así como de procesos de formación permanente de profesionales de la salud para hacer frente al abandono y desarrollar nuevas alternativas para aumentar la adherencia y la finalización del tratamiento.

DESCRIPTORES: Gerentes de salud. Investigación cualitativa. Tuberculosis. Abandono del tratamiento.

INTRODUCTION

Tuberculosis is an important public health problem. It was responsible for 1.8 million death in 2008.[1-2] Brazil ranks 15th in number of cases among the 22 countries responsible for 80% of all tuberculosis cases around the world.[3] The mean incidence rate of the disease in Brazil corresponded to 38.6/100 thousand inhabitants in 2008 and 37.2/100 thousand inhabitants in 2010[4]. In comparison with the national average, the State of Minas Gerais[4] and Belo Horizonte[5] displayed incidence rates of 22.8/100 thousand inhabitants in 2008 and 53.2/100 thousand in 2010, respectively. It is highlighted that Belo Horizonte ranks third in Brazil in terms of abandonment, with 21%. The World Health Organization (WHO) establishes abandonment levels of up to 5% as acceptable.[6]

The Unified Health System (SUS) is in charge of tuberculosis treatment, following the guidelines of the National Tuberculosis Control Plan (PNCT). The State offers treatment free-of-charge, adopting a therapeutic scheme that combines different drugs.[7] Treatment is still long (six months), and its abandonment or irregular maintenance are frequent, which represents one of the main challenges for compliance with the PNCT until today.[8]

The PNCT incorporated the World Health Organization's recommendation, which in 1997 implemented Directly Observed Therapy Short-Course, known in Brazil under its initials DOTS. DOTS involves direct medication administration by an outsider, who observes and registers the intake of each medication dose. The DOTS strategy, which is considered a care management technology for tuberculosis control, includes other activities besides treatment, such as the investigation of patients and families' sociocultural and economic profile, psychological support, monitoring of patients' health conditions, among other recommendations. This approach aims to enhance adherence, greater discovery of infection sources and increased cure, reducing the risk of community transmission.[6]

The success of the DOTS strategy is associated with health services' ability to comply with one of the SUS principles, integrality, which directs the systemic dimension of the PNCT, requiring comprehensive and continuous care through articulated network actions and qualified health practices by interprofessional teams, considering patients within a humanistic approach.

Besides' individuals representation about their health, illness and body, cultural and socioeconomic factors influence treatment abandonment.[5,9-13] Treatment abandonment associated with individual problems has already been well described in literature. Research is lacking, however, about health professionals' perception of the dynamics of health services and the way they have confronted the treatment abandonment problem. These aspects are relevant to broaden the actions that are undertaken and to make possible solutions feasible.

In view of these considerations, this study aimed to analyze, from the perspective of Health Center (HC) managers in Belo Horizonte, Minas Gerais, how the services under their coordination have complied with PNCT orientations, in the context of integrality, and how they perceive the motives that lead to abandonment.

METHOD

To develop the study, the qualitative research method characterized as descriptive-exploratory was chosen. In line with qualitative research designs, the study sample was not predetermined. Instead, we intentionally looked for subjects who could provide the information needed to reach the research goal. The criteria defined to select the subjects were: male and female managers of the health services where the highest tuberculosis treatment abandonment levels were found. These data were obtained from the Notified Health Problem Information System (SINAN), choosing three regional districts (Northeast, West and Pampulha) in Belo Horizonte with the highest number of tuberculosis treatment abandonment cases, among the nine regional health districts in the city.*

Thus, the study subjects were nine HC managers, distributed among the districts: Northeast (four professionals), West (three) and Pampulha (two). The District Regulation, Information and Epidemiology Management (GEREP) of each regional unit advised on the choice of the managers, based on the higher number of treatment abandonment rates at each HC. The number of subjects was delimited through information saturation, i.e. the redundancy or repetition of information obtained and analyzed from each interview.[14]

Data were collected through semistructured interviews, following a pre-elaborated and validated script with closed questions on the manag-

* Data for abandonment in 2007 and 2008.

ers' sociodemographic data and open questions on knowledge about the PNCT and compliance with the integrality principle in tuberculosis treatment, patients' ways of thinking and acting in view of the disease and treatment, difficulties at the health services they coordinated, and the motives for treatment abandonment. The primary author held the interviews, after receiving training from her advisors in the script validation pilot study.

Data were collected between April and August 2010, after the project had been approved by the Research Ethics Committees at the Belo Horizonte Municipal Health Secretariat (Opinion Number 0012.0.410.245-09) and the *Centro de Pesquisa René Rachou*/FIOCRUZ (Opinion Number 0028.0.245.000-8), in compliance with National Health Council Resolution No. 196. All participants who accepted to contribute to the research signed the Informed Consent Form and information secrecy was guaranteed. Fictitious (flower) names are used for the managers in this study.

The interviews were recorded and fully transcribed for data categorization and analysis. Therefore, Thematic Content Analysis[15,16] was used, which involves the following phases: pre-analysis, material exploration and treatment of results and interpretation.

To analyze the collected data, first, the material was subject to floating reading, organizing and defining the analysis categories, sub-categories and significant excerpts. Then, data interpretation followed, in the attempt to unveil the underlying contents of the reports.[15]

RESULTS AND DISCUSSION

In the analysis of the material, the integrality perspective in the PNCT was considered, which expresses that one of the goals of the SUS is care delivery to people through health promotion, protection and recovery actions, including the integrated accomplishment of care actions and preventive activities. In this context, two categories emerged that interpret abandonment associated with health service functioning for compliance with PNCT guidelines and with the services' difficulties and perspectives to solve the challenges. Another category associates abandonment with the users, highlighting patients' lifestyle aspects, personal and social characteristics. These categories will be presented and discussed next.

Abandonment associated with health service functioning for compliance with PNCT guidelines

The managers report how they cope with tuberculosis patients' demands at the HC. Regarding case notification, all managers reported monitoring and notification: *all cases have to be notified. Also, the medication is linked with the notification* (Magnolia). And one of them informed that the number of cases is increasing: *something interesting the nurse talked to me about the other day was that she noticed there's a rise now, and I also observed that some notifications arrived recently, it seems that new cases were discovered* (Rose).

Despite efforts towards correct notification, of all new tuberculosis cases WHO estimates, less than half are notified. This situation reveals the insufficiency of control policies[17] and demands efforts to create intelligent disease monitoring systems, using Information and Communication Technologies (ICTs).[18]

Concerning sensitization and the way the team is organized, the managers reported on activities for health professionals, characterized as meetings, training courses, use of dissemination materials and even a room to monitor patients, including records in a ledger: [...] *there's a whole sensitization movement in care, we're even getting training that's changing the medication, there's a nurse who's responsible for checking notifications each month, evolutions, see whether the monitoring is done, so that the patient is not lost, so that's basically how we've worked, right* (Amaryllis).

As reported in literature, a permanent education program needs to be set up, with a view to providing updates on different care-related aspects,[19] as observed in the present study, despite the health team's efforts.

Among the registration books mentioned, some managers indicated that a "green/black" book exists to make notes on tuberculosis cases, revealing that the health team either did not use it, used it badly or did not even know about it: *it's the green book I've already mentioned, the case registration book each unit should keep and everyone writes down in there who the tuberculosis patients are and when treatment started and what month he's in, what scheme he's using* (Magnolia); [...] *there wasn't any here, so I tried to find one. Then I advised the auxiliary when he was going to make notes on all respiratory symptomatics* [...]. *Then I managed to recover some things and we started to use that book* (Hydrangea).

The PNCT recommends the use of two books, one to record respiratory symptomatics, and the other is called the monthly monitoring book to make notes on confirmed tuberculosis cases. None of the interviewed managers, however, provided clear information on the use of these books, which is mentioned indirectly in the following reports.

It was verified that each patient's information is registered in the file, which permits monitoring the home visits and procedures performed: *we've got those records, in the file. On the day he comes first, we fill out the respiratory symptomatic form. He did the test, the result was positive, then the start of treatment is written down in the file, we fill out the notification form. Then patients are monitored monthly and we fill out a monitoring worksheet that is sent to epidemiology* (Daisy). Some managers referred to the electronic file: *but what's fundamental is that the patient history is registered in the electronic file, with monthly appointments that are guaranteed and charged. Everything is registered.* (Jasmine)

One problem the managers constantly mention is the difficulty to identify cases and diagnose patients in the community: *now, one piece of information we have and which is not very good is that a percentage of diagnoses, most is done outside the unit, in the hospital and not here. That shows us that people are not identifying cases that much, right? So we need to look at that, right?* (Rose)

It should be highlighted that one of the priorities of the PNCT 2001-2005[20] is related to the early diagnosis of the disease. According to the interviewed managers, however, many tuberculosis cases are not being diagnoses, whether due to a lack of health service access or the fact that health professionals are not paying attention to respiratory symptomatics.

As for the case distribution per area, one manager affirms cases in all neighborhoods the HC attends, independently of the socioeconomic situation: *they are spread out* [...]. *I've got a poorer area and a better area. Incidence rates are practically the same in the better and in the poorer area* (Daisy).

Due to its transmissible nature, tuberculosis can affect any person, independently of his/her economic and social condition,[21] but epidemiological data demonstrate that the disease affects poorer populations more,[22] going against the interviewee's position.

Different patient monitoring procedures were identified. All managers reported Community Health Agents' (CHAs) use of DOTS, besides active searches when the patient does not return to the HC to pick up the medication, and of respiratory symptomatics and their contacts: *the drug stays at the Health Center and the user comes. He didn't come today, we know that he didn't and call for the active search.* (Jasmine); *the CHA goes to the house twice or thrice a week for that monitoring and also makes a relative accountable for supervision on those days the CHA does not go* (Hydrangea); [...] *a pregnant woman with tuberculosis, in the block where she lived, six houses, there were more than 30 people I had to screen* (Dahlia).

The implementation of DOTS confirmed its benefits as, three years later, tuberculosis incidence levels had dropped by 35%.[23] This reduction is associated with the decreased treatment abandonment due to DOTS and the consequent cure, reducing the number of potentially transmitting patients who could disseminate the disease. According to the Ministry of Health, the active search for respiratory symptomatics and contacts should be a permanent attitude and incorporated into the routine activities of all health team members.[20] It allows the CHA to identify, in the community, people who have been coughing for three weeks or more and forward them for a tuberculosis test.[24] When a new tuberculosis case is detected, all contacts are investigated. [25]

Another important aspect that should be taken into account is the use of interprofessional teams, with social workers and psychologists, to construct strategies that permit reducing abandonment. Not all HCs have these professionals though: *we work with the social workers, that's what we have here* (Daisy). To deal with this situation, many managers forward the patients to other HCs in the same district, which do have these professionals.

The managers reported that the nurses, and mainly the CHAs, use dialogue with patients and their relatives as a form of care and monitoring, and transmit the information they obtain to the Health Center when patients do not attend programmed activities: *talk to him, approach him 'did you take it correctly?' 'Was any pill left there at your home?'* (Daisy); [...] *we already calm him down that there's a cure, that you won't transmit it to anyone, so we call this work counseling, it's not just giving the medicine, we talk, discuss the physician's, the nurse's orientation, right?* (Dahlia).

The patients' identification with the professionals linked with their treatment, with the formal or informal orientations beyond the medical

consultation, change their attitude towards their treatment,[26] as the PNCT emphasizes.[20]

Although the interviewed managers did not report this, aspects related to the Health Center/ Service, such as service quality, organization, medication distribution irregularities, precarious attendance, access difficulties and negligence in patient monitoring are reported in literature as possible causes of non-adherence to treatment.[9-10,12-13] Long waiting times at the service discourage return to that service, and perhaps even treatment continuity, mainly among asymptomatic patients.[12] Other factors are related to health professionals, such as non compliance with times, affecting the quality of clinical exams and patient interaction.[11,13]

Patients' lifestyle, personal and social characteristics and treatment abandonment

Concerning histories of abandonment, the managers reported the different situations experienced at the Health Center: *we've had various tuberculosis cases, complicated cases, in which we had to think of how to proceed. Tuberculosis in a drug dealer for example. And the dealer arrested, and we had to give him medication. One time he was free, the other he was arrested, he was arrested under another name and we had to see how we'd make a bridge for treating that citizen (*Carnation); [...] *I've got plenty of histories of abandonment, one patient who left home and became a rambler and disappeared. She went to live on the streets.* (Rose); [...] *he wasn't an alcoholic nor a drug addict, but he lived with his uncles and, when his uncles found out that he was sick, they kicked him out of their house* (Daisy).

All managers mentioned the loss of family structure, as well as the lack of family support and of the patient's own interest (self-esteem). As described in different studies,[27-28] these findings revealed how affective bonds and family support are important in the cure process, and that self-care and the will to get better are also essential: [...] *all patients with abandonment reports are patients with insufficient family structure. So I think that's closely related with self-esteem and family support* (Daisy); [...] *who abandons does not have a strong affective bond. We've got an adult who doesn't feel he has a comfortable affective bond, so I don't bother getting treatment, because I don't mind contaminating people, that's the impression it gives* (Jasmine); *another related factor is whether the person actually denies the disease or is not very committed to his/her own health* (Magnolia); *if you're unable to convince the patient that it's important for him to get treatment, that it's important to be convinced of that, there's no public policy that will convince him of that* (Daisy).

The interviewees report that most factors contributing to abandonment are related with patients, revealing that they have been held accountable more strongly for treatment adherence or not.

Studies have focused on chronic patients' suffering, concluding that treatment success highly depends on their behavior.[29] Before holding solely patients accountable for their health status, however, reflection is due on whether the HCs are complying with their role as health promoters and complying with the PNCT aims, as none of the Centers visited developed Health Education in the field of tuberculosis.

Alcohol consumption was frequently mentioned among the managers, who also reported that patients who use drugs are more susceptible to treatment abandonment, with frequent associations between drugs consumption and alcoholism: [...] *we knew G. in January, already with a history of tuberculosis, with difficult treatment adherence, we did the active search, tried to make him adhere in any possible way, we called him several times and he didn't show up, there's a drinking issue there. G. is a chronic drinker.* (Violet); *we've got various situations, alcoholism, drug addiction, the person's social conditions here in the neighborhood often make it difficult, right?* (Carnation); *'why do you do that? 'Because I can't stop drinking, I can't stop smoking, because you can't do this, you can't do that, I can't handle that'* (Dahlia).

This profile of patients who consume alcohol and drugs and abandon treatment is not uncommon. Different studies appoint that drinking is one of the main treatment abandonment factors, as well as drugs use.[5,9-13,26-28]

Another factor mentioned was the action of medication side effects and the improvement after the start of treatment: *'I'm gonna throw up the whole medicine on the road, it's no use'* [...] *it's a lot of pills, they cause nausea, change the skin color, there's plenty of things, some patients are allergic, I think that helps and I think that, like, you're already having a number of side effects, then you start to take the medication, you get better, then you think you're better already.* (Daisy); [...] *what we observe is that it's difficult at first, right? And when he manages to get by that difficult start, his situation improves somewhat, he gains weight, he starts to get back to his activities and so, the cough improves, then he say, 'Ha, I'm fine already, I don't need treatment this whole time, right?'* (Hydrangea).

The patients' feeling of wellbeing after the initial treatment phase and the occurrence of medi-

cation side effects have also been one of the most appointed reasons for abandonment.[5,12-13,21,26,29] One manager's report is interesting, mentioning that, after explaining that improvement does not mean cure, the patient returned to the treatment, again revealing the importance of the professional's relation with the patient. Explanations are not always sufficient though, demanding other alternatives, like videos where the phenomena of disease resistance and return can be illustrated and better discussed with the patients.

Only one manager reported the case of a patient with drug resistance, who therefore abandoned the treatment: *it was a very difficult case, he abandoned, then he returned, he was experiencing resistance to the medication, and then there's another drug we use when the patient abandons and which causes resistance* (Daisy).

Although effective drugs exist, their effects and medication resistance are one of the factors that can lead to tuberculosis treatment abandonment,[11,13,26] in line with our findings. WHO[1] reports that drug resistance increased in situations of irregular treatments, associated with precarious health systems and inefficient tuberculosis programs.

Service difficulties and perspectives to solve the challenges

Revealing learning from the experience, a manager reported the HC's inadequate monitoring as a factor that can lead to treatment abandonment, indicating some possible treatment losses due to professionals' limited attention to patients' difficulties: *besides this issue of treatment not being supervised, there's the issue of monitoring being more superficial, right? If you could treat tuberculosis and, at the same time, people were sensitive to the lack of family structure, starting with mental health or the social work, perhaps we could have rescued the case, but then this look wasn't there and we lost. Now we learned from that* (Rose).

In this sense, the therapeutic success of tuberculosis patients demands the health team's commitment, including daily supervision of medication intake, control exams, return consultations, social assessment, besides family monitoring. One fact that exemplifies professionals' less attentive look is the devaluation of coughing, which is not characterized as an acute situation that demands immediate intervention. This fact, however, determines a loss of attention, as users find no answer to their health problem and only return when their condition gets worse.[25]

Besides the reasons that lead to abandonment, managers also reported some reasons to avoid it and achieve a successful treatment, mainly showing the importance of family support and bonding with the CHAs: [...] *I've got some cases we managed to finish, it was the wife, a well-structured family, the wife monitoring, taking it correctly* (Rose); *it's because, when you establish the bond, mainly with the CHA, it gets easier. There's something different too, that our CHAs, most of them are here since 2002, when the FHP started. So the bond was already established* (Amaryllis).

Various authors report that adequate information to patients and families about the disease and their identification with the health team strongly reduce the probability of treatment abandonment.[12,19,26-27] The bond between patients and health professionals establishes a relation of trust, dialogue and respect between both.[13] Therefore, the PNCT[20] highlights professionals' actions as strategic to improve treatment adherence and avoid abandonment.[25]

Concerning treatment adherence, two managers reported that the team should be constantly sensitized, recovering a more attentive look on patients: *other looks, having more of an analysis of the person's profile, of the way she lives, to allow us to act, it's not just the person coming, consulting, giving the medicine and that's it. I think that's what happened, that's why so many were lost. It's that look I'm trying to recover, of working deeper, that's why I included the social worker, psychologist in the tuberculosis surveillance group, for them to work on this more with the teams* (Rose); *over here it's like that, when we've got the family health staff, support from the clinic and the pediatrician and gynecologist, sometimes we even manage to get a more comfortable situation to be able to help the patients, because then you give priority to acute cases, right, out of respect, we discuss in the team, establish a support network* (Amaryllis).

As this more attentive look approaches patients and the health team, better care organization, reducing waiting times for consultations and tuberculosis training are important factor related to good adherence.[27] Professionals' training process alone, however, does not guarantee the continuation of users' health care. Permanent training is needed, permitting knowledge gains and recycling that offer the necessary support for care.[25]

Concerning supervised treatment, two managers suggest the family's help to observe

medication intake, besides treatment at the HC: *it's because this association between the CHA and another relative to do the supervision happens a lot* (Rose); *I've got an area here where there's no CHA, it's a low risk area, then we make a relative responsible for that. We advise the relative, sensitive and make him responsible for this supervised treatment* (Daisy).

One difficulty the managers mentioned was time availability, revealing that other population health problems that demand immediate intervention often prevent them from working on tuberculosis as they should: *the difficulty I feel every day, we've got a lot to do, to think, it's not tuberculosis, there are other diseases we are working on, right? It's hypertension, chronic illnesses, there's Hansen's disease, so there are a lot of fronts you have to act on at the same time, and we feel that sometimes something's missing, not motivation, but lack of time for you to dedicate yourself as much as you would like to. But we haven't stopped doing it, no* (Rose); *all the time some other problem swallows us, now there's dengue fever, there was H1N1, vaccination campaign, the demands prevent us from organizing the FHP as we believe it could be done* (Amaryllis).

Another issue that makes case identification difficult is the fact that users do not talk about their own symptoms, like the cough for example: *some people don't say that, don't tell that they're coughing, mainly men* (Daisy). We also perceive the gender issue here in symptom hiding.

As for the absence of an interprofessional team, two managers reported that there are not enough professionals to help with care delivery to patients under treatment, and mainly cases of abandonment: *we don't even have a psychologist at the unit. And the municipal psychology and psychiatry service is very limited, it is restricted to psychotics and severe neurotics. So, psychology and psychiatry... not a chance.* (Daisy); *the municipal mental health service only recommends care to severe neurotics and psychotics* (Amaryllis); *unfortunately, the Health Center has neither a psychologist nor a social worker* (Jasmine).

One manager reported that community-oriented health promotion activities in tuberculosis would be useful but that, due to current demands, tuberculosis is not a priority, besides the fact that the population does not want to participate in such initiatives and that prevention and health promotion were left aside: *I think that promotion activities, activities we can disseminate more for people to pay more attention. With so many things happening today, I think that tuberculosis is not a priority. Instead of trying to do prevention and promotion, but people do not want to, they want the medicine. We have gotten far in terms of care, but prevention and promotion* [...] (Amaryllis).

FINAL CONSIDERATIONS

This analysis indicates different factors, according to the managers, that seem to influence tuberculosis treatment abandonment. Based on the narratives, discussions on the issue allowed us to reflect on service quality and difficulties to put in practice PNCT recommendations and orientations, mainly regarding the integrality principle. The care dynamics is still precarious and differs among Health Centers, depending on who coordinates it and the team present there. This points towards a discussion on the role health services play in tuberculosis control.

If health institutions have been held accountable for treatment failure, some professionals consider it due to patients' decision, associated with a "difficult" profile or patients' problems. Health professionals' good relation with patients, however, is considered fundamental for treatment to continue. Accessible information during home visits and support for patient transportation can also cooperate a lot to avoid abandonment.

To avoid treatment abandonment, managers and other health professionals should be sensitized to know patients' needs. Therefore, it is very important to welcome patients and establish bonding, listening to their complaints, adjusting care and proposing joint solutions (health team and patient), thus assuming the principles of integrality and humanization.

According to the managers, the difficulties they face in daily reality are many and located in different spheres: difficulty to detect cases in the community; treatment abandonment; patients' non-commitment; health professionals' hardly committed look; comorbidities associated with tuberculosis; alcoholic and/or drug-addicted patients; lack of family support; absence of an interprofessional team in care delivery to tuberculosis patients, mainly psychologists and social workers; HCs with many problems to solve; emerging priority demands (dengue, H1N1, vaccination campaigns); lack of time for health education activities; non-existence of permanent education programs for professionals; and information gap between HC and GEREP.

From an integrality perspective, managers and health teams need to reconsider the search for strategies to involve patients and their relatives in

treatment adherence. One alternative would be permanent health education for professionals to remain stimulated and updated, besides enhancing their bonding and between services and the community. In this sense, professionals can establish bonding and create links of co-responsibility with patients, who will cease to be seen as the sole responsible for their health condition.

Also, there is an urgent need for health education actions for patients and their relatives. Holding community groups and waiting room conversations are examples of activities that could contribute to treatment adherence. Besides, the HCs need to disseminate information about the disease and construct more appropriate strategies for the abandonment and treatment resistance problem instead of merely hanging up posters on the walls and distributing pamphlets only when the Secretary makes these available.

To try and minimize the difficulties faced to detect (and diagnose) possible tuberculosis cases, one alternative would be the creation of intelligent disease monitoring systems through ICTs. It is believed that ICTs can help and further health professionals' reach, as they make information more dynamic and permanently updated and enhance network activities.

Despite all tools used, however, it is very important that these are associated with better service infrastructure, more health professionals constituting interprofessional teams, health education actions and social mobilization, so that patient care is integrated into the family and health professionals.

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