

Factors Influencing the Abandonment of Tuberculosis Treatment at Health Center May 1, 2016-2017, Maputo City, Mozambique

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Abstract

Background: Although Tuberculosis (TB) is a preventable and curable disease, it is a major public health problem, especially in developing countries. Mozambique is among the 30 countries with the greatest burden of TB and its control is becoming more and more a challenge because of the high number of HIV-TB co-infection associated with patients abandoning TB treatment.

Method: A qualitative study was carried out which, through a semi-structured interview script, interviewed in February 2018, sixteen patients who abandoned treatment between 2016 - 2017 and who were enrolled in the tuberculosis treatment program of the Health Center May 1. The selection of the patients was for convenience and it was possible to locate their residences with the help of the health committee agents. Each patient found was explained about informed consent if he accepted to be part of the research, would sign the consent. The data collected were organized into frequencies, and some responses were analyzed according to their content.

Results: All 16 patients participated in the study had simple pulmonary TB for the first time and most of them were male (65.5%). The average age of respondents was 37.5 years and most were single. Most patients knew how long they should take the treatment, but most of the patients abandoned the treatment in a period equal to or greater than two months. In general, having felt cured, lack of food, side effects of medications associated with addictions especially the consumption of alcohol, were the main causes of abandonment to treatment.

Conclusion: The abandonment of tuberculosis treatment remains a major challenge for the tuberculosis program. Most patients who dropped out of treatment in this study had a low level of schooling, revealing a need for health professionals to interact with communities to increase awareness of treatment compliance. These results also demonstrate the need to intensify community DOTS activities, especially in their active searches, to reduce dropout rates.

Keywords: Tuberculosis; Treatment Abandonment; Health Center May 1; Maputo; Mozambique

Introduction

Although Tuberculosis (TB) is a preventable and curable disease, it is a major public health problem, especially in developing countries [1].

It is a potentially fatal and contagious disease caused by *Mycobacterium tuberculosis*, also known as Koch bacillus, which is transmitted by air from an infected individual to a healthy one, and can affect any part of the body, but affects especially the lungs [2].

Tuberculosis is the 9th leading cause of death globally, and the leading cause of death by a single etiological agent. In 2016, around 10.4 million people developed TB in the world, equivalent to 140 cases per 100,000 inhabitants, of whom 90% were adults, 65% men and 35% women. Despite the mortality and burden of TB in the period 2000 - 2016, TB treatment averted 44 million deaths worldwide in HIV-negative people and 9 million deaths in HIV-positive people [3].

About 95% of the cases and 98% of TB deaths are in developing countries, especially in Southeast Asia and Sub-Saharan Africa, where Mozambique is a member. These are the regions of the world that are also most affected by poverty and HIV/AIDS [4].

Mozambique is among the 30 countries with the highest burden of TB, in the country this disease accounts for 3.1% of all deaths. In the year 2016, Mozambique had an incidence of 551/100,000 inhabitants, which was 4 times higher than the global average and 2 times higher than the African average [3]. The high burden of the disease in Mozambique is corroborated by the situation in the entire sub-Saharan region, where countries such as Lesotho, South Africa, Swaziland and Namibia have incidences above 500/100,000 inhabitants [3].

The abandonment of treatment has become one of the challenges for the control of TB, since in addition to the patients who leave the treatment they are sources of infection, it contributes to the increase of mortality and the rate of relapse, which also allows the development of strains of resistant bacilli and increased time and cost of treatment [5].

Discontinuation of tuberculosis treatment is frequent, especially after the patient has clinical improvement. This fact may be able to condition resistant forms of *Mycobacterium tuberculosis*. Several factors may be associated with treatment withdrawal, such as irregular use of medications or non-taking, side effects of medications, duration of treatment and low socioeconomic level [1].

The decrease in dropout means, therefore, the decrease in mortality and incidence rates, this factor is also reflected in the decrease in the appearance of resistant strains [6].

The Health Center May 1 is one of the health centers with the most dropouts in TB treatment and is located in the KaMaxaquene Municipal District, in the southwest of the city of Maputo, capital of Mozambique, and has a population of 227,290 inhabitants. This health unit registered for the year 2015 the drop rate of 14% and 38% for the first and second semester respectively [7].

To reduce dropout rates, it is important to be aware of the factors associated with such drop-out, in order to bring people on TB treatment to good practice and health care. The present study aimed to identify the factors that lead to the abandonment of TB treatment in the Health Center May 1, during the year 2016 - 2017.

Methods

It is a qualitative study of exploratory nature, since there was a need to obtain more information on the subject, through the collection of subsidies that allowed the understanding of the real dimension of the theme. Sixteen patients were interviewed, based on a semi-structured interviews script. Sampling was for convenience during the month of February 2018 and the identification of the patients' residence was possible based on the records of patients enrolled in the year 2016 - 2017 in the tuberculosis control program of the health unit. After the identification of the patients, with the help of the health committee agents, their residences were located. Upon arrival at the residence, prior to the interview, informed consent was read to them, and if they agreed, they would sign the consent and then the interviews were carried out. Those who were not available for the interview at that time, marked a date according to the availability of the patient. While the interview was being conducted, some data were also collected through observations. Subsequently, the collected data from interview were analyzed using the content analysis method. Initially a detailed reading of the collected material was made, then an exploration of the material was made, where the keywords of the related discourses were identified, thus creating the categories of analysis, aiming to understand the interviewee's speech. In the end, a comparative analysis was done through the overlapping of the several categories created, highlighting the different and similar aspects found in the theoretical framework.

The study was approved by the Institutional Committee of Bioethics for Health, of the Higher Institute of Health Sciences of Maputo, Mozambique, with ref: TFCSPMA 38/17/CIBS.

Results

Table 1 shows the socio-demographic characteristics of the interviewees. Most of the interviewees were male (56.25%) and the mean age was 37.5 years, and the majority were single (56.25%). Most of the interviewees (75%) had not attended general secondary education and had diversified occupations, with a greater frequency of informal employment.

| Sex | n | % |
|----------------------|---|-------|
| Female | 7 | 43.75 |
| Male | 9 | 56.25 |
| Age (years) | n | % |
| 20 - 29 | 4 | 25 |
| 30 - 39 | 6 | 37.5 |
| 40 - 49 | 3 | 18.75 |
| ≥ 50 | 3 | 18.75 |
| Marital status | n | % |
| Married | 4 | 25 |
| Singles | 9 | 56.25 |
| Widowed | 3 | 18.75 |
| Level of schooling | n | % |
| Primary | 8 | 50 |
| Secondary | 4 | 25 |
| University | 0 | 0 |
| None | 4 | 25 |
| Occupation | n | % |
| Gardener | 1 | 6.25 |
| Bricklayer | 1 | 6.25 |
| Security | 1 | 6.25 |
| Tile assembler | 1 | 6.25 |
| Domestic | 1 | 6.25 |
| Mechanical assistant | 1 | 6.25 |
| Saleswoman | 2 | 12.25 |
| No occupation | 2 | 12.75 |
| Housekeeper | 3 | 18.75 |
| Traveling merchant | 3 | 18.75 |

Table 1: Social-demographic characteristics of interviewees.

Table 2 shows the main causes that will have conditioned to the abandonment of the treatment. It can be observed that alcohol consumption, lack of food and the feeling of having felt better, contributed more to the abandonment of treatment.

| Causes of abandonment | n | % |
|-----------------------|---|-------|
| Alcohol consumption | 4 | 25 |
| Effect of medicines | 1 | 6.25 |
| Lack of food | 4 | 25 |
| Cure by the church | 1 | 6.25 |
| Felt better | 5 | 31.25 |
| Service trip | 1 | 6.25 |

Table 2: Causes of treatment abandonment.

Regarding the time to treatment (Table 3), it was found that most of the interviewees abandoned treatment after having started the treatment for at least one month.

| Treatment time until abandonment | n | % |
|----------------------------------|---|------|
| Three weeks | 1 | 6.25 |
| One month | 4 | 25 |
| A month and a half | 1 | 6.25 |
| Two months | 4 | 25 |
| Three months | 4 | 25 |
| Four months | 2 | 12.5 |

Table 3: Treatment time until abandonment.

Discussion

Males may be more vulnerable than females, since in many families, especially in developing countries, males are more likely to leave for work by leaving their wives at home. This fact can condition the vulnerability of the disease, the same can happen for single individuals. Similar results were also found by several authors [8-12].

The fact that a large part of the interviewees did not attend general secondary education can justify the vulnerability of this social stratum, since illiteracy has often been associated with a low socioeconomic level and, consequently, more vulnerable to tuberculosis [2]. It is important to emphasize that low level of education also contributes to patients' low understanding and acceptance of the disease. These results coincide with those found by other authors [10] in a study carried out in Santa Catarina, on the abandonment of tuberculosis treatment in patients co-infected with HIV. Similar results were also found by other authors [1,13,14]. As a way of avoiding high dropout rates mainly in this social group, it is important to maintain language adequacy on the part of the health professionals, for a better understanding on the severity of the disease by the patients. It is important to note that lower the educational level of patients, greater the need for dialogue between patients and health professionals [10].

Regarding the occupation, it is important to highlight that the salespeople, domestic servants and traveling merchant, are groups that presented more frequency of the infected individuals, probably because their occupations, allow contact with several people. A study done in the state of Paraná on factors associated with the abandonment of tuberculosis treatment, showed that informal employment, has also been considered as a factor that influences the abandonment of tuberculosis treatment [14].

Excessive consumption of alcohol is an evil for human health. However, this fact is aggravated even more when consumers find themselves in a treatment regime of any pathology, as is the case of tuberculosis treatment. Results of this research showed that 25% of patients abandoned treatment because of alcohol consumption. The association between drug treatment of TB and alcohol consumption increases the chance of drug intolerance, which can also be considered as a cause of abandonment [2]. Being a low-income population, (shown in table 1 on occupation), it is evident that the difficulties in having basic food become more accentuated with the disease, considering that a large part of these patients are heads of families and are in age group economically active.

Some patients reported that they abandoned the treatment because they felt better. This may be in line with the treatment period until the abandonment (Table 3), where dropouts occurred within the first 4 months of treatment. However, the abandonment was more accentuated since the second month of treatment, which may be explained by the reduction of clinical symptoms and the patients feeling that they are already cured. This factor was also verified in this research, when five participants stated that they would have abandoned treatment because they felt better and thought they were cured (Table 2). These findings are in agreement with several authors who found rates of abandonment predominant in the first half of the treatment [13,15,16]. Studies show that the risk of abandonment to treatment increases considerably from these months, because many patients think they are already cured, since they are asymptomatic [17]. In addition, these dropouts may be related to the poor information that patients are given after diagnosis, about deeper knowledge of the disease, and to the importance of completing treatment. However it can become increasingly difficult to control drop-out rates [13,14,16,18,19].

Conclusion

The abandonment of TB treatment remains one of the main challenges related to the disease. However, patients who have abandoned treatment may develop resistance to the drugs, thus prolonging the treatment period, increasing the treatment costs for the National Health System, as well as being a source of infections. The results of this research demonstrated that dropout was more frequent in patients with a low socioeconomic level, thus reflecting the vulnerability of this social stratum. However, efforts should be increased in the community Directly Observed Therapy Short-course (DOTS) strategy, intensifying active searches and improving the interaction of health professionals with patients, to minimize this problem.

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Bibliography

1. Silva CCAV, *et al.* "Factores associados ao abandono do tratamento de tuberculose em indivíduos acompanhados em unidades de saúde de referência na cidade do Recife, Estado de Pernambuco, Brasil, entre 2005 e 2010". *Epidemiologia e Serviços de Saúde* 22.1 (2013): 77-85.
2. Couto DS, *et al.* "Determinantes para o abandono do tratamento da Tuberculose: representações dos usuários de um hospital público". *Saúde em Debate* 38.102 (2014): 572-581.
3. World Health Organization. "World Health Statistics: monitoring health for the SDGs, sustainable development goals" (2017).
4. Perdigão AP. "Manual Clínico de Tuberculose e TB/HIV para Clínicos". Moçambique (2012).
5. Ferreira J, *et al.* "Adesão ao tratamento da tuberculose pela população de baixa renda moradora de Manguinhos, Rio de Janeiro: as razões do im(provável)". *Cadernos Saúde Coletiva* 20.2 (2012): 211-216.
6. Alves RS, *et al.* "Abandono do Tratamento da Tuberculose e Integralidade da Atenção na Estratégia de Saúde da Família". *Texto and Contexto Enfermagem* 21.3 (2012): 650-657.
7. Relactório anual de actividades da Direcção da Cidade de Maputo (2016).
8. Leal MJ. "Causas de abandono do tratamento de tuberculose. Monografia (Habilitação em Enfermagem de Saúde Pública)". Faculdade de Enfermagem de Jequié (1987).
9. Paixão LMM and Gontijo ED. "Perfil de casos de tuberculose notificados e fatores associados ao abandono, Belo Horizonte, MG". *Revista de Saúde Pública* 41.2 (2007): 205-213.
10. Cortezi MD and Silva MV. "Abandono do tratamento da tuberculose em pacientes co-infectados com HIV, em Itajaí, Santa Catarina, 1999 - 2004". *Boletim de Pneumologia Sanitária* 14.3 (2006): 145-152.
11. Sousa ABF and Cruz ZV. "Abandono do tratamento da tuberculose no município de Itapetinga-BA: um estudo da influência dos factores ambientais". *Enciclopédia Biosfera, Centro Científico Conhecer - Goiânia* 8.14 (2012): 1471.
12. Moitá Sá AM, *et al.* "Causas de abandono do tratamento entre portadores de tuberculose". *Revista da Sociedade Brasileira de Clínica Médica* 15.3 (2017): 155-160.
13. Farias de Oliveira J and de Cerqueira MA. "Abandono anunciado ao tratamento da tuberculose em uma unidade de saúde da família do Recife - a perspectiva do usuário". *Revista de APS* 15.1 (2012): 4-13.

14. Furlan MC., et al. "Fatores associados ao abandono do tratamento de tuberculose no estado do Parana". *Acta Paulista de Enfermagem* 25.1 (2012): 108-114.
15. Ferreira SM., et al. "Abandono do tratamento da tuberculose pulmonar em Cuiaba-MT-Brasil". *Jornal Brasileiro de Pneumologia* 31.5 (2005): 427-435.
16. Chirinos NE and Meirelles BH. "Fatores associados ao abandono do tratamento da tuberculose: uma revisao integrativa". *Texto and Contexto Enfermagem* 20.3 (2011): 599-606.
17. Costa JS., et al. "Controle epidemiologico da tuberculose na cidade de Pelotas, Rio Grande do Sul, Brasil: adesao ao tratamento". *Cadernos de Saude Pública* 14.2 (1998): 409-415.
18. Marques AM and Cunha RVda. "A medicacao assistida e os indices de cura de tuberculose e de abandono de tratamento na população indigena Guarani-Kaiwa no Municipio de Dourados, Mato Grosso do Sul, Brasil". *Cadernos de Saude Pública* 19.5 (2003): 1405-1411.
19. Oliveira HB de and Moreira Filho D de C. "Abandono de tratamento e recidiva da tuberculose: aspectos de episodios previos, Campinas, SP, Brasil, 1993-1994". *Revista de Saude Pública* 34.5 (2000): 437-443.

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