

## **CHALLENGES IN TUBERCULOSIS COINFECTION TREATMENT IN PEOPLE WITH HIV/AIDS IN ANGOLA**

Silvano da Silva Cameia<sup>1</sup>   
Betina Hörner Schlindwein Meirelles<sup>2</sup>   
Veridiana Tavares Costa<sup>2</sup>  
Sabrina da Silva de Souza<sup>3</sup> 

<sup>1</sup>International Health Center SOS Talona, Luanda, Angola.

<sup>2</sup>Universidade Federal de Santa Catarina, Programa de Pós-graduação em Enfermagem. Florianópolis, Santa Catarina, Brasil.

<sup>3</sup>Universidade Federal de Santa Catarina, Hospital Universitário, Florianópolis, Santa Catarina, Brasil.

### **ABSTRACT**

**Objective:** to know the challenges faced during tuberculosis coinfection treatment in people with HIV/AIDS (HIV/TB) in Huambo, Angola.

**Method:** this is a qualitative convergent-care investigation carried out in the antituberculosis dispensary of the sanatorium hospital of Huambo, Angola. It included 18 people co-infected with HIV/TB and 11 health professionals. Data were collected from January to July 2016 through conversation interviews, participatory observation and a convergence group. In data analysis, conventional content analysis of Hsieh and Shannon was used.

**Results:** the data originated two categories: challenges of HIV/TB coinfected people when facing the diseases and treatment adherence, and challenges due to intervening factors upon HIV/TB treatment adherence.

**Conclusions:** people's conception about living with HIV/TB, associated with the intervening factors upon HIV/TB treatment adherence, results in late search for health services, non-adherence to treatment and worsening of diseases, thus posing as challenges to be overcome for better control of this double epidemic.

**DESCRIPTORS:** HIV. Tuberculosis. Coinfection. Therapeutics. Medication Adherence.

**HOW CITED:** Cameia SS, Meirelles BHS, Costa VT, Souza SS. Challenges in tuberculosis coinfection treatment in people with HIV/AIDS in Angola. *Texto Contexto Enferm* [Internet]. 2020 [cited YEAR MONTH DAY]; 29:e20180395. Available from: <https://doi.org/10.1590/1980-265X-TCE-2018-0395>

## DESAFIOS NO TRATAMENTO DA COINFECCÃO DE TUBERCULOSE EM PESSOAS COM HIV/AIDS EM ANGOLA

### RESUMO

**Objetivo:** conhecer os desafios frente ao tratamento da coinfeção de tuberculose em pessoas com HIV/Aids (HIV/TB) em Huambo, Angola.

**Método:** trata-se de uma investigação qualitativa, do tipo convergente assistencial, realizada no dispensário antituberculose do hospital sanatório do Huambo, Angola. Contou com a participação de 18 pessoas coinfectadas por HIV/TB e 11 profissionais de saúde. Os dados foram coletados no período de janeiro a julho de 2016 através de entrevista de conversação, observação participativa e grupo de convergência. Na análise dos dados utilizou-se a análise de conteúdo convencional de Hsieh e Shannon.

**Resultados:** os dados originaram duas categorias: desafios das pessoas com HIV/TB frente às doenças e à adesão ao tratamento e desafios enfrentados diante dos fatores intervenientes na adesão ao tratamento da HIV/TB.

**Conclusões:** a concepção que as pessoas têm sobre o viver com HIV/TB, associada aos fatores intervenientes na adesão ao tratamento da HIV/TB, resulta em busca tardia pelos serviços de saúde, não adesão ao tratamento e agravamento das doenças, sendo desafios a serem vencidos para melhor controle desta dupla epidemia.

**DESCRITORES:** HIV. Tuberculose. Coinfeção. Terapêutica. Adesão à medicação.

## DESAFÍOS EN EL TRATAMIENTO DE LA COINFECCIÓN POR TUBERCULOSIS EN PERSONAS CON VIH/SIDA EN ANGOLA

### RESUMEN

**Objetivo:** conocer los desafíos que enfrenta el tratamiento de la coinfección por tuberculosis en personas con VIH/SIDA (VIH/TB) en Huambo, Angola.

**Método:** se trata de una investigación cualitativa, de tipo asistencial convergente, realizada en el dispensario antituberculoso del hospital sanatorio de Huambo, Angola. Contó con la participación de 18 personas coinfectadas con VIH/TB y 11 profesionales de la salud. Los datos se recolectaron de enero a julio de 2016 mediante entrevista conversacional, observación participativa y grupo de convergencia. El análisis de datos utilizó el análisis de contenido convencional de Hsieh y Shannon.

**Resultados:** los datos dieron lugar a dos categorías: desafíos para las personas con VIH/TB frente a la enfermedad y la adherencia al tratamiento y desafíos frente a los factores involucrados en la adhesión al tratamiento del VIH/TB.

**Conclusiones:** la concepción que tienen las personas de vivir con VIH/TB, asociada a los factores intervenientes en la adherencia al tratamiento VIH/TB, resulta en un retraso en la búsqueda de servicios de salud, la no adherencia al tratamiento y el agravamiento de las enfermedades, siendo desafíos a superar para un mejor control de esta doble epidemia.

**DESCRIPTORES:** VIH. Tuberculosis. Coinfección. Terapéutica. Cumplimiento de la Medicación.

## INTRODUCTION

Tuberculosis (TB) still exists and is the deadliest disease in the world, being considered a relevant public health problem, alike to the human immunodeficiency virus infection - HIV.<sup>1-2</sup> HIV/TB coinfection rate worldwide is 63% of people living with HIV, and tuberculosis continues to pose a significant challenge to HIV response.<sup>3</sup>

Historically, people living with HIV are more susceptible to TB-related illness. This is a world reality.

TB is the leading infectious cause of death among people living with HIV.<sup>3</sup> In 2016 the incidence of this infection worldwide was 10.4 million; 90% of the cases were adults; 65% were male; 10% were HIV-infected people, 74% of cases occurred in Africa, and 56% correspond to India, Indonesia, China, the Philippines and Pakistan. Also in 2016, data showed that 1.3 million people died from TB, out of which 374,000 people had been living with HIV.<sup>4</sup>

The incidence of HIV infection in Angola was 25,000 cases in 2016. 12,000 cases were detected in women older than 15 years, whereas there were 8,900 cases in men and 3,600 cases in children under 14 years of age.<sup>5</sup>

The prevalence of HIV/TB coinfection in 2012 in Angola was 27 cases per 100,000 inhabitants, with the incidence of 978 new co-infected cases. In 2014, in Huambo, 25 cases of TB and HIV/AIDS coinfection were recorded.<sup>6-7</sup>

The National Health System of Angola deems that health care consists of three levels of care, therefore we find primary, secondary and tertiary care. The tertiary level comprises central hospitals, specialized hospitals and highly complex maternity hospitals, and it is at this level where the National Institute for the Fight against AIDS (INLS) and the National Program to Fight Tuberculosis (PNLT) are included. At the secondary level there are provincial (state) hospitals that integrate medium-complexity services, in which the provincial HIV/AIDS and tuberculosis programs are inserted. Municipal hospitals, health centers and health posts are part of the primary level, and this is where integrated health care is carried out, including HIV counseling and testing, as well as the directly observed treatment for tuberculosis. These levels are articulated with each other through reference and counter-reference mechanisms in order to ensure integrated and continuous assistance.<sup>8</sup>

The Constitution of the Republic of Angola, in Article 21/2010, enshrines the promotion of policies that make primary health care universal and free as a fundamental task of the State. According to the law, health services in Angola are free of charge.<sup>9</sup> Medicine is purchased from various sources of funding, the most important one being the Global Fund, and HIV/TB coinfecting patients do not pay for treatment.<sup>8</sup> Efforts to address HIV include improving public care by increasing counselling and testing services for adults, children, and pregnant women.<sup>7</sup>

The National Strategic Plan to Combat AIDS has a cross-sectional and intersectoral character, including various levels, such as: Ministries, Members of the National Commission to Fight AIDS and Major Endemic Diseases, Provincial Committees, Public and Private Sector, Churches, NGOs, and others, led by the National Institute for the Fight against AIDS (INLS), created by Decree 07/05 of March 9, 2005, which is the main element of the Angolan Ministry of Health (MINSa).<sup>7</sup>

The TB screening program and the TB prevention with isoniazid program were also established for people living with HIV, and that is a systematized process through government levels: National, Province, Municipality and Local services, because counseling and testing services cover all units that provide care to TB patients. The regimen of 32 antiretroviral treatments follows the guidelines for coinfection, and it is reviewed every two years.<sup>7</sup>

Social, economic and cultural factors have influenced the increase in HIV cases in Angola, as there are high percentages of illiteracy, migration, poverty and early start of sexual relations,<sup>10</sup> as well as drug and alcohol abuse.<sup>11</sup>

Both diseases are characterized by epidemics that concern health sector managers and professionals, since they have to control two complex situations with heavy treatment regimes, which present medication side effects in addition to the strong stigma and prejudice those diseases carry.<sup>12-13</sup>

The knowledge, behaviors and perceptions of people affected by these diseases may favor treatment adherence or not.<sup>7</sup> Irregular tuberculosis treatment contributes to drug resistance, in addition to maintaining the transmission of the disease.<sup>14</sup>

Tuberculosis is the disease that most emblematically characterizes the social determination of poverty in the health/disease process of a population. Both tuberculosis and AIDS are identified as a goal for the achievement of the Sustainable Development Goals (SDGs) proposed by the United Nations Assembly, which is to promote well-being for all, at all ages, and the control and elimination of these two diseases is planned by the year 2030. For this to occur, integrated, patient-centered care and prevention are required; so are bold policies and support systems; and intensification of research and innovation.<sup>15</sup> Considering this reality, that includes the approach in relation to difficult treatment adherence, the increasing antimicrobial drug resistance, and the problem of neglected diseases affecting developing countries, the following research question arises: What are the challenges facing tuberculosis treatment adherence in people living with HIV?

Thus, we aim to know the challenges facing tuberculosis coinfection treatment in people with HIV/AIDS (HIV/TB) in Huambo-Angola.

## METHOD

This is a qualitative investigation carried out as a convergent-care research (PCA)<sup>16</sup>, because it aimed to bring new knowledge to solve a problem faced in daily life through innovation and improvements for the care practice of health professionals who serve coinfecting people in specialized care services. This study was developed simultaneously with the provision of care to people with HIV/TB by the researcher, which required the researcher to be immersed in care practice.<sup>16</sup> The research allowed us to unite care and research activities in a single place and time, with specificity that is identical to a spiral, with approximations between theory and practice, in a link with care practice. The researcher's commitment to investigate and carry out health care practice, from the conceptions of professionals or users involved in the research setting, aimed at improving care during and after the investigation.<sup>16</sup>

Thus, the study followed the four methodological phases recommended by PCA: 1) Conception Phase, 2) Instrumentation Phase, with methodological decisions, 3) Perspective Phase, in the search for information, and 4) Analysis/Comprehension and Interpretation Phase, with synthesis, theorization and transference.<sup>16</sup>

In this context, the province of Huambo, whose capital is Huambo, located in southern Angola, was selected for research. It has an area of 35,771 km<sup>2</sup> and its population is approximately two million inhabitants, with predominant Ovimbundu ethnicity. The selected location was Huambo Sanatorium Hospital, where HIV/TB coinfecting people are treated. It is a reference service of specialized care, with adult hospitalization units, pediatrics, and an outpatient clinic with 200 beds for people diagnosed with tuberculosis and/or HIV. The staff consists of two nurses, 63 nursing technicians, 30 diagnostic and therapeutic technicians, and eight physicians. This service has been operating since 1949 and has contributed to the fight against tuberculosis in Angola. Among the main factors associated with the causes of death in this hospital unit, there are patients' late search for services, treatment non-adherence, and HIV/TB coinfection. On average, the outpatient clinic treats 80 TB and HIV/TB coinfecting patients a day.

The researcher inserted himself in the health team of the antituberculosis dispensary of the sanatorium hospital, performing nursing consultations with HIV/TB coinfecting people, giving orientations and lectures, and ending the care practice by carrying out a convergence group. The consultations were individual, lasting approximately 45 minutes, from 8 to 12 o'clock, at a frequency of three times a week. The lectures took place once a week, during the day, and on average they lasted 15 to 30 minutes. The convergence group allowed a rich exchange of experiences and validation at the end of data collection and it lasted 1 hour and 30 minutes.

The research participants were selected from the HIV/TB coinfecting patients under treatment and from health professionals who worked in this service. The selection criteria for people with HIV/TB were: being over 15 years of age, receiving treatment for tuberculosis and HIV. For the professionals, the criteria were: to provide health care to coinfecting people for at least six months.

Through the norm of immersion adopted by PCA, data collection was therefore performed in the period from January to July 2016, through conversation interviews, participatory observation, and a convergence group.<sup>16</sup>

The interviews were central in data collection, and they consisted of an open discussion during the investigator's care practice and in accordance with the demand of that period, making it possible to link the investigation and care practice in the same system, gathering information for investigation and health care dynamically.<sup>16</sup>

The convergence meeting took place in the sanatorium hospital, lasting an hour and a half. The interviews had a script with open questions and an average duration of 30 minutes. Observation was performed throughout the researcher's process of permanence in the hospital for data collection.

Observation was participative, because it included the researcher as a member of care practice to provoke changes and innovations in a shared way.<sup>16</sup> Care for HIV/TB coinfecting people, treatment drug delivery, guidance given to users, and mechanisms used by professionals faced with inherent difficulties to treatment adherence were observed. A field diary was used to record collected information. In the initial phase, 18 HIV/TB coinfecting people were interviewed regarding their needs, difficulties and knowledge to improve their treatment adherence. Then, nine health professionals who provided direct care to these people were interviewed to know the challenges they faced concerning adherence. At the end of data collection, a convergence group was conducted with the participation of 11 professionals (of these, four managers), with the purpose of elaborating investigation concomitantly with care practice in health education or clinical practice. It was a group that favored the achievement of changes and innovations in care practice, following the stages of recognition, revelation, sharing and rethinking.<sup>16</sup>

In total, 29 interviews and a convergence group were conducted. The observations were recorded in the field diary, the interviews and the convergence group were audio-recorded and were later transcribed in full in the Microsoft Word® text editing program, version 2010.

Data collection was elaborated to allow the research participants to perform critical reflection on the challenges they face during HIV/TB treatment, in order to promote changes in reality.

Throughout data collection, the researcher acted as a member of the team of health professionals in the antituberculosis dispensary - attending lectures, counseling patients, interacting with professionals and patients, discussing results and providing support material to health professionals, thus evidencing theoretical-practical convergence.

The Comprehension stage made the data collection process viable, as information was recorded in a coordinated way, until it reached saturation and data was categorized, through its insertion in care practice in order to provoke innovations alongside the participants.<sup>16</sup>

For data organization and coding, QSR Nvivo® software for qualitative and mixed data analysis, version 10 was used. For data analysis, the conventional content analysis technique was used.<sup>17</sup> In

this analysis, the researcher refrains from using preconceived categories, enabling the emergence of categories from what is shown by the data. Data analysis began with repetitive readings so, in order to achieve immersion, word-by-word readings were made to originate codes. This initial coding system led to the formation of categories.<sup>17</sup> The elaboration of a tree diagram made it possible to organize categories in a hierarchical structure. Therefore, concepts were designed for each of the codes, categories and subcategories, favoring the reporting of the results.

The synthesis phase consisted of filtering obtained information, discussing with the team about the necessary changes and the way they may be framed in daily care. The theorization process was done through the system of identification, definition and design of exchanges among the group of constructs. Finally, the transference stage made it possible to contextualize the results found in the study with similar situations, in order to transfer and socialize them<sup>16</sup> during the convergence group and the presentation with the sanatorium team and invited research participants. Through triangulation of data obtained in the interviews, the observation and the convergence group, two categories were formed.

As in Angola, even though it recognizes the precepts of the Nuremberg Code and the Declaration of Helsinki, no ethics committees in research with human beings had been yet constituted, research is approved by the institutions where they are carried out, and this study fulfilled all the ethical precepts provided by Resolution 466/201218 of the Brazilian National Health Council (CNS – *Conselho Nacional de Saúde*). To preserve the identity of the subjects, HIV/TB coinfecting patients were identified in the text with the letter “P”, health professionals with the letters “PS”, and those who participated in the convergence group with the letters “GC”, at the end of each corresponding excerpt.

## RESULTS

Of the 18 HIV/TB coinfecting people who participated in the study, 12 did not work, and 12 survived on zero to two minimum wages per month, which corresponds to 0 to 300 U.S. dollars. Most (13) lived in the provincial capital - Huambo; they were over 18 years old (16), single (6) and female (10). Of the participants, only one was white, all the others were black. As for education, only one had a graduate degree, and five of them had never studied. Among the coinfecting participants, eight consumed alcoholic beverages, three used illicit drugs, and the others did not use drugs (7). Most contracted HIV infection by sexual intercourse (15) and some could not inform how it happened (3). Regarding treatment, seven had discontinued the previous treatment and the others (11) never interrupted treatment.

Data analysis originated two main categories: Challenges of people with HIV/TB facing the diseases and treatment adherence, and challenges faced due to intervening factors upon HIV/TB treatment adherence.

### Category 1 – Challenges of people with HIV/TB facing the diseases and treatment adherence

The way people imagine HIV/TB coinfection, in some cases, negatively influences the way they face treatment, increasing the impact of the diseases on them, so they see treatment as a difficult and painful process: [...] *“Living with these two diseases is having another concept of facing life, it is to tell myself every day that I am sick [...] it is complicated and difficult to do the treatment.”* (P5)

For some, being coinfecting with HIV/TB meant being punished by supernatural entities or being the target of bad luck. These conceptions can influence treatment adherence and continuity: [...] *“I think living with these diseases is a punishment, I think life is punishing me for what I did.”* (P17).

Coping with feelings such as fear, shame, anxiety and depression, often present in the lives of people with HIV/TB coinfection, is the kind of experience that these people start to have, posing as significant challenges in the face of treatment adherence: [...] *“Patients who arrive here are worried, anxious, confused, afraid, ashamed and depressed, [that] also makes it difficult for them to adhere to and continue with treatment.” (PS6).*

HIV/TB coinfection causes many losses in affected people, changing their habits and lifestyle by directly and negatively influencing work dynamics, leading them to a deep sense of injustice, due to the way of life to which they are subjected due to the diseases and the risk of death around them: [...] *“the diseases have caused problems in my work and in my life.” (P11).*

Fear of dying and shame are included in the aspects that afflict people for having these diseases. They end up developing a feeling of guilt in the face of problems that appear in their lives and their families, they constantly think about death, and some even consider committing suicide: [...] *“I have ruined my life, [the life] of my children, of the men who came into my life and of my mother from the moment I caught HIV.” (P11); [...] “I think about death every day, I think about these diseases every day.” (P14).*

From the health professionals' perspective, HIV/TB coinfection has a negative impact on people's lives, with changes in their physical and emotional state: [...] *“coinfected patients, some are outraged.” (PS2); [...] “These are diseases that do not only damage the physical aspect of the patient, but especially the psychological state.” (PS1).*

## **Category 2 – Challenges faced due to intervening factors upon adherence to HIV/TB treatment**

The severity of the diseases makes people look for other treatment options and care itineraries, such as faith-healers. This can interfere with treatment adherence, as coinfecting people believe in forms of cure other than medication. [...] *“we have cases where the patient seeks healing in faith-healers after being diagnosed, but there are few.” (PS8).*

According to health professionals, sometimes coinfecting people abandon treatment when they present physical improvements; with the disappearance of symptoms they assume they are cured of the diseases and drop TB treatment, mainly.

Gender relations are also present, because the number of men who drop tuberculosis treatment is higher than that of women: [...] *“I think patients think that they are already cured of TB and abandon treatment, and continue with HIV treatment, it has not been easy to end TB treatment, because after two months of treatment the patient has almost 80% of the signs and symptoms resolved, and they drop it, especially the male ones.” (PS1). [...] “men abandon treatment more than women.” (PS7).*

People coinfecting with HIV/TB feel guilty when they think they may have contaminated their partners with HIV or when faced with the deficits in the health service structure, which does not favor privacy and open dialog with professionals. This feeling can contribute to non-adherence to treatment, as they are ashamed to talk about this situation, both with their partners and with health professionals: [...] *“I gave up treatment at the time my last boyfriend's test results came out. I was very sad, unwilling to live, when I knew I transmitted HIV to him.” (P11); [...] “whenever I come here at the consultation, they put us in a room where there are many professionals and patients. I can't ask anything that worries me, alongside with other problems I had, I preferred to give up treatment.” (P12).*

The high number of medicines that people need to ingest daily, associated with their adverse effects, also influences drug treatment adherence: [...] *“they give me many medicines, I feel weak, sometimes I get dizzy, without strength. Sometimes it makes me want to give up and die fast.” (P3).*

Getting a job or keeping it is a difficulty that people coinfecting with HIV/TB need to face. Because it is a disease that most emblematically characterizes the social determination of poverty in

the health/disease process of a population, it becomes difficult to have access to food, transportation and financial conditions to follow treatment, and some abandon it. Sometimes health professionals help these people financially to maintain treatment: [...] *“the boss saw me and demanded that I take the HIV test again and I told her I’m HIV positive. She kicked me out, since then I have never been able to find another job, I didn’t have financial conditions to take medicine for a long time.”* (P11); [...] *“nurses and other health professionals sometimes take it out of their salaries to buy patients food, they give this help individually.”* (PS2).

Difficulties in accessing treatment and care are present in the reality of the study. The number of health professionals is insufficient to meet all the demand, which results in the reduction of the consultation time, delay in scheduling, and lack of privacy during consultation. These matters are also pointed out as factors that influence non-adherence to treatment and dropouts: [...] [It is] *Also due to lack of space. Patients are treated simultaneously and this also removes their confidence in speaking openly about their problems and doubts, which also makes it difficult to adhere to treatment.*” (PS7); [...] *“others treat us as if they were in a competition to see who treats more patients. The first time they treated me like this, I thought they were trying to get rid of me, at first, I felt like giving up this treatment thing.”* (P7).

The consumption of alcoholic beverages, illicit drugs and smoking habits are part of the problems faced by individuals coinfecting with HIV/TB, contributing to non-adherence to treatment and its cessation. Illicit drugs compete with the treatment regime and contribute directly to its interruption: [...] *“I consumed a lot of alcohol and smoked a lot of marijuana... Because of the drugs I couldn’t start treatment early [...] I’m reducing it [...] I relapsed into drugs and alcohol and gave up tuberculosis and HIV treatment for 3 months.”* (P9).

When treatment is abandoned the diseases are aggravated. Moreover, abandonment of coinfection treatment contributes to the maintenance of the chain of transmission of these diseases, increasing their incidence, as reported in the statements: [...] *“the patient gives up treatment and then returns in a more severe condition.”* (PS5); [...] *“the individual who abandons [treatment] ends up infecting a lot of people.”* (GC5).

People coinfecting with HIV/TB can become resistant to medications when they abandon treatment, contributing to viral and/or bacterial resistance and establishing a resistant chain of transmission: [...] *“an individual, when they abandon treatment, treatment becomes difficult, it resists drugs.”* (PS1). There is no action plan to rescue people who abandon treatment: [...] *“whoever abandons treatment, no matter the cause, no one goes after them.”* (PS6).

Prejudice still is a central issue that people coinfecting with HIV/TB have to face. Few people agree to live with them, hindering interaction with the environment in which they are inserted and, in certain cases, conflicts are developed with family members, even reaching physical aggression: [...] *“I know that if these people know I have HIV and TB they will defame me or run away too.”* (P6).

Discrimination and prejudice are also part of the barriers which are set up for HIV/TB coinfecting people. They are not considered upstanding citizens, and in some settings a connection is drawn between these diseases and promiscuity and drug addictions, therefore, many patients hide their diseases: [...] *“there is much prejudice and discrimination against people with HIV and tuberculosis.”* (P13).

Many HIV/TB coinfecting people are abandoned by family and friends, being excluded from the environment in which they were inserted, increasing the problems they face because they are sick, making life difficult in almost all aspects: [...] *“my brothers, cousins and uncles act as if I do not exist.”* (P17); *“I have no friends, the ones I had fled from me.”* (P6).

It is perceived that, due to the defamation and prejudice they face daily, excluded by friends and family, people coinfecting with HIV/TB face social stigma and discrimination in several ways through their process of living with coinfection.

## DISCUSSION

When we broached the subject of challenges that face HIV/TB coinfection treatment with coinfecting people and health professionals, we identified that there are difficulties that affect both the lives of coinfecting people and health professionals as they provide care to these patients; these challenges need to be addressed.

For coinfecting people, experiencing the double disease condition is a striking, limiting, frightening experience, and it is considered a punishment by some of them.<sup>13</sup> This corroborates the perception of some participants in this study, who mentioned that being coinfecting with HIV/TB means being punished by supernatural entities or being the target of bad luck.

At the revelation of the diagnosis and during treatment, fear is a constant with people due to the fact that the association between these diseases and death persists in popular representations.<sup>18</sup> HIV/TB coinfection was perceived in the study as having a negative impact on the daily lives of coinfecting people – altering their habits and lifestyle, feeling ashamed, fearing death constantly –, and suicide is pointed out as a possibility to solve their problems. TB and HIV are historically stigmatized diseases and the negative impact generates drastic consequences of treatment abandonment and high mortality rates.<sup>19</sup> This reality of the participants corroborates the literature about the difficulties of those living with HIV in maintaining a relationship, since it can lead to feelings of anguish, sadness and fear, often linked to the stigma, prejudice and discrimination associated with AIDS.<sup>20</sup>

For coinfecting people, their knowledge, behavior, beliefs, perceptions and expectations can be factors that negatively affect drug treatment.<sup>11,13</sup> These results converge with the findings of this study, because some research participants conceived the experience of HIV/TB as a terrible process, believing that they were being punished, they developed fear, shame and depression.

Inadequate TB treatment is related to a higher degree of drug resistance and incomplete treatment adherence favors tuberculosis transmission,<sup>14</sup> as shown by the results, with non-adherence to treatment or its cessation as causes of drug resistance and gateways to maintaining the chain of disease transmission. Non-adherence, in addition to affecting patients' clinical conditions, also affects their quality of life, aggravating the disease.<sup>11</sup> These findings denounce the unstable and temporary approach, the challenges of routine treatment for HIV/TB.

Regarding programmatic aspects, there is no specific and effective conduct by professionals to rescue people with HIV/TB when they miss consultations, or search strategies to locate these people who abandoned treatment,<sup>20</sup> a fact that is corroborated by the data of the present study.

The research also pointed out the lack of privacy and of adequate physical structure at health services as limitations to care. Regarding the reasons related to the health service, issues related to the physical structure, the organization of the work process for TB control and the difficulties of access were relevant in the context of non-adherence, as well as insufficient funding, scarce or poorly trained human resources, and the absence of an integrated information system.<sup>20-21</sup>

The most frequent difficulties faced by people living with HIV/TB coinfection are related to socioeconomic issues, social factors, lifestyle and treatment, because poverty, illicit drug use, recreational alcohol use and excess of medications are reasons that significantly interfere in the continued and effective treatment of tuberculosis.<sup>11</sup>

The stigma and prejudice against HIV/TB comorbidity are first experienced through the internalization of stigmatizing discourse built throughout the history of the two diseases, related to expectations and fear of being discriminated against, bringing delay in seeking help, diagnosis and

treatment adherence.<sup>13,18</sup> These evidences converge with those of this research, in which stigma and discrimination are highlighted aspects as reasons for abandonment by family and friends, professional losses, and antagonization by society, as already indicated in another study that presents difficulties in the intrafamily environment, prejudice by close members of the family nucleus, presenting negative repercussions that directly impact the process of living with the disease, making it more stressful.<sup>22</sup>

Changes in life habits, the discovery of the diagnosis of coinfection, and coexistence with it generate new behaviors and feelings towards life. The impact of living with TB and HIV produces disturbing experiences, mainly related to the moment of diagnosis.<sup>11</sup> Faced with the knowledge of the diagnosis of coinfection, individuals react in various ways, from indifference to despair.<sup>23</sup>

They often seek to forget the difficulties they face in life and overcome the feelings of frustration, loneliness and fear of death brought by HIV/TB coinfection.<sup>7</sup> Also in our study, feelings of rage and injustice are evident in part of coinfecting individuals, and in some cases, there was the development of feelings of guilt and suicidal thoughts.

One of the points highlighted by health professionals in the reality under study showed that there are no actions aimed at rescuing individuals who do not comply with treatment, which characterizes a fragmentation in the integral care of people affected by HIV/TB coinfection. This data converges with a study conducted in Peru<sup>24</sup> that identified programmatic barriers such as too little or no coordination between tuberculosis and HIV teams, and separate management of tuberculosis and HIV cases at different levels of care, which hinder access to comprehensive care of coinfecting patients with tuberculosis and human immunodeficiency virus.

The success of these actions and their incorporation in a given context can be influenced by several factors, including the organizational arrangement model adopted by the countries, the precariousness of support in the development of the actions towards adherence, failure in the communicative process in the dissemination of information, and governmental motivations.<sup>21</sup>

The limitation of this study was tied to the fact that it showed the reality of a specific care service, suggesting new studies in broader contexts and other social realities.

## CONCLUSION

This study showed that people face challenging situations facing HIV/TB coinfection, especially in regard to treatment adherence, including: withstanding adverse reactions of medication; tolerating difficulties in accessing treatment and care; experiencing stigma, prejudice and isolation; resisting socioeconomic problems; dealing with fear and shame; and dealing with changes in their habits and lifestyle to take treatment.

On the other hand, health professionals face other challenges, such as seeking mechanisms that help coinfecting people to have a positive conception about the diseases; as well as dealing with non-adherence and the factors that favor treatment abandonment, with actions that reduce the impact of the diseases on coinfecting people for continuity of treatment despite social difficulties. It implies health professionals that are sensitized to the specificities of living with HIV/TB coinfection, for qualified, welcoming care, permeated by active listening, thus encouraging treatment adherence.

It is concluded that facing the challenges pointed out regarding treatment adherence and improvement of care and treatment for people living with HIV/TB coinfection can contribute to the definition of programmatic actions and result in better control of this double epidemic.

## REFERENCES

1. World Health Organization. The use of loop-mediated isothermal amplification (TB-LAMP) for the diagnosis of pulmonary tuberculosis: policy guidance [Internet]. Geneva (CH): WHO; 2016 [cited 2018 June 15]. Available from: <http://www.who.int/tb/publications/lamp-diagnosis-molecular/en/>
2. World Health Organization. In collaboration with United Nations Children's fund (UNICEF) and Emergency Nutrition Network (ENN). Implementation considerations on Human Immunodeficiency Virus (HIV) and infant feeding in the context of emergencies [Internet]. Geneva (CH): WHO; 2016 [cited 2018 June 15]. Available from: [http://www.who.int/nutrition/events/2016\\_meeting\\_hiv\\_infantfeeding\\_emergencies\\_14to16sept/en/](http://www.who.int/nutrition/events/2016_meeting_hiv_infantfeeding_emergencies_14to16sept/en/)
3. Joint United Nations Program on HIV/AIDS. Tuberculosis and HIV. Geneva (CH): UNAIDS; 2018 [cited 2018 June 15]. Available from: <http://www.unaids.org/en/resources/infographics/tuberculosis-and-hiv>
4. Organización Mundial de La Salud. Informe mundial sobre la tuberculosis 2017 [Internet]. Geneva (CH): OMS; 2017 [cited 2018 June 15]. Available from: [http://www.who.int/tb/publications/global\\_report/gtbr2017\\_executive\\_summary\\_es.pdf?ua=1](http://www.who.int/tb/publications/global_report/gtbr2017_executive_summary_es.pdf?ua=1)
5. Joint United Nations Program on HIV/AIDS (UNAIDS). HIV in Angola. Data 2016 [Internet]. Geneva(CH): UNAIDS; 2017 [cited 2018 June 15]. Available from: <http://www.unaids.org/en/regionscountries/countries/angola>
6. Programa Conjunto das Nações Unidas sobre VIH/SIDA. Relatório de Progresso da Resposta Global à SIDA [Internet]. Luanda (AO): ONUSIDA; 2014 [cited 2018 June 15]. Available from: <http://onuangola.org/agencias/onusida/>
7. Joint United Nations Program on HIV/AIDS. Relatório de progresso da resposta global à SIDA República de Angola [Internet]. Geneva (CH): UNAIDS; 2014. [cited 2019 Mar 29]. Available from: [http://www.unaids.org/sites/default/files/country/documents/AGO\\_narrative\\_report\\_2014.pdf](http://www.unaids.org/sites/default/files/country/documents/AGO_narrative_report_2014.pdf)
8. Ministério da Saúde de Angola. Instituto Nacional de Luta Contra a Sida. Protocolo para avaliação e seguimento de enfermagem aos pacientes VIH+ [Internet]. 3rd ed. Luanda (AO): Ministério da Saúde de Angola; 2017 [cited 2019 Mar 29]. Available from: <https://www.cplp.org/id-4879.aspx>
9. Angola. Assembleia Constituinte. Constituição da República da Angola. 2010. [cited 2019 Mar 29]. Available from: [http://www.tribunalconstitucional.ao/Conteudos/Artigos/lista\\_artigos.aspx?idc=150&idsc=160&idl=1](http://www.tribunalconstitucional.ao/Conteudos/Artigos/lista_artigos.aspx?idc=150&idsc=160&idl=1)
10. Programa Conjunto das Nações Unidas sobre VIH/SIDA. Relatório de Progresso da Resposta Global à SIDA. Luanda (AO): ONUSIDA; 2014 [cited 2018 June 15]. Available from: <http://onuangola.org/agencias/onusida/>
11. Sousa Filho MP, Luna IT, Silva KL, Pinheiro PNC. Pacientes vivendo com HIV/AIDS e coinfeção tuberculose: dificuldades associadas à adesão ou ao abandono do tratamento. *Rev Gaúcha Enferm* [Internet]. 2012 [cited 2018 Jul 23];33(2):139-45. Available from: <http://iris.paho.org/xmlui/bitstream/handle/123456789/34032/v41a232017.pdf?sequence=1>
12. Lecca L, Galea J, Contreras CC, Millones AK, Clendenes M, Yuen CM. Challenges in tuberculosis/HIV management in a country with a concentrated HIV epidemic. *AIDS* [Internet]. 2017 [cited 2018 Jul 23];31(9):1207-9. Available from: <https://doi.org/10.1097/QAD.0000000000001471>
13. Silva JB, Cardoso JCP, Ruffino A Netto, Kritski AL. Os significados da comorbidade para os pacientes vivendo com TB/HIV: repercussões no tratamento. *Physis* [Internet]. 2015 [cited 2018 Jul 23];25(1):209-29. Available from: <https://doi.org/10.1590/S0103-73312015000100012>
14. Klopper M, Warren RM, Hayes C, Pittius NCGV, Streicher EM, Müller B, et al. Emergence and spread of extensively and totally drug-resistant tuberculosis. *Emerg Infect Dis* [Internet]. 2013 [cited 2018 Jul 23];19(3):449-455. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/23622714>

15. Brasil. Ministério da Saúde. Programa Nacional de Controle da Tuberculose. Tuberculose no mundo [Internet]. Brasília, DF (BR): Ministério da Saúde; 2012 [cited 2018 June 15]. Available from: <http://portal.arquivos.saude.gov.br/images/pdf/2017/fevereiro/21/Apresentacao-sobre-os-principais-indicadores-da-tuberculose.pdf>
16. Trentini M, Paim L, Silva DMG. Pesquisa Convergente Assistencial. Delineamento provocador de mudanças nas práticas de saúde. 3rd ed. São Paulo, SP (BR): Moriá; 2014.
17. Hsieh HF, Shannon SE. The approaches to qualitative content analysis. *Qual Health Res* [Internet]. 2005 Nov; [cited 2018 Jul 23];15(9):1277-88. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/16204405>
18. Neves LAS, Canini SRM, Reis RK, Santos CB, Gir E. Aids and tuberculosis: coinfection from the perspective of the quality of life of patients. *Rev Esc Enferm USP* [Internet]. 2012 [cited 2018 Jul 23];46(3):704-10. Available from: [http://www.scielo.br/scielo.php?pid=S0080-62342012000300024&script=sci\\_arttext&tlng=en](http://www.scielo.br/scielo.php?pid=S0080-62342012000300024&script=sci_arttext&tlng=en)
19. Santos MSLG, Ponce MAZ, Vendramini SHF, Villa TCS, Santos NSGM, Wysocki AD, et al. The epidemiological dimension of TB/HIV co-infection. *Rev Latino-Am Enfermagem*. 2009;17(5):683-8.
20. Sa AAM, Santos CVM. A Vivência da Sexualidade de Pessoas que Vivem com HIV/Aids. *Psicol Cienc Prof* [Internet]. 2018 [cited 2019 Apr 01];38(4):773-86. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S1414-98932018000500773&lng=en&nrm=iso](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1414-98932018000500773&lng=en&nrm=iso)
21. Rodrigues ILA, Monteiro LL, Pacheco RHB, Silva SED. Abandonment of tuberculosis treatment among patients co-infected with TB/HIV. *Rev Esc Enferm USP* [Internet]. 2010 [cited 2018 Jul 23];44(2):383-7. Available from: [http://www.scielo.br/scielo.php?pid=S0080-62342010000200020&script=sci\\_arttext&tlng=en](http://www.scielo.br/scielo.php?pid=S0080-62342010000200020&script=sci_arttext&tlng=en)
22. Peruhype RC, Sicsú AN, Lima MCRA, Hoffmann JF, Palha PF. Policy transfer: perspective of the directly observed treatment of tuberculosis. *Texto Contexto Enferm* [Internet]. 2018 [cited 2018 Oct 25];27(3):e1710017. Available from: <https://doi.org/10.1590/0104-070720180001710017>
23. Jesus GJ, Oliveira LB, Caliri JS, Queiroz AA, Gir E, Reis RK. Dificuldades do viver com HIV/Aids: Entraves na qualidade de vida. *Acta Paul Enferm*. 2017;30(3):301-7.
24. Lemos LA, Feijão AR, Gir E, Galvão MTG. Quality of life aspects of patients with HIV/tuberculosis co-infection. *Acta Paul Enferm* [Internet]. 2012 [cited 2018 Jul 23];25(Spe):41-7. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0103-21002012000800007](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-21002012000800007)

## NOTES

### ORIGIN OF THE ARTICLE

This study is part of a dissertation entitled “*Desafios frente à adesão ao tratamento da tuberculose em pessoas que vivem com HIV em Huambo-Angola*”, which was presented to the Graduate Program in Nursing of *Universidade Federal de Santa Catarina* in 2016.

### CONTRIBUTION OF AUTHORITY

Study design: Cameia SS, Meirelles BHS.

Data collection: Cameia SS.

Data analysis and interpretation: Cameia SS, Meirelles BHS.

Discussion of results: Cameia SS, Meirelles BHS.

Writing and/or critical review of content: Cameia SS, Meirelles BHS, Costa VT, Souza SS.

Final review and approval of the final version: Cameia SS, Meirelles BHS, Costa VT, Souza SS.

### FUNDING INFORMATION

This work had the support of the Coordination for Personal Improvement of Higher Education Brazil (CAPES). Financing code 001

### APPROVAL OF ETHICS COMMITTEE IN RESEARCH

The article was approved by the Research Ethics Committee of *Universidade Federal de Santa Catarina*, Opinion 1,691,928, CAAE (*Certificado de Apresentação para Apreciação Ética - Certificate of Presentation for Ethical Consideration*) 58045616.8.0000.0121 and authorized by Huambo Sanatorium Hospital by Declaration 043/HSH/ 2016,

### CONFLICTS OF INTEREST

None.

### HISTORICAL

Submitted: October 25, 2018.

Approved: May 17, 2019.

### CORRESPONDING AUTHOR

Sabrina da Silva de Souza

enfermeirasabrina@gmail.com

