Barriers and Facilitators to Integrating Depression Treatment Within a TB Program and Primary Care in Brazil

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Tuberculosis (TB) and depression is common and is associated with poor TB outcomes. The World Health Organization End TB Strategy explicitly calls for the integration of TB and mental health services. Interpersonal Counseling (IPC) is a brief evidence-based treatment for depression that can be delivered by non-mental health specialists with expert supervision. The goal of this study was to explore potential barriers and facilitators to training non-specialist providers to deliver IPC within the TB Control Program and primary care in Itaboraí, Rio de Janeiro state. Data collection consisted of six focus groups (n = 42) with health professionals (n = 29), program coordinators (n = 7), and persons with TB (n = 6). We used open coding to analyze the data, followed by deductive coding using the Chaudoir multilevel framework for implementation outcomes. The main structural barriers identified were poverty, limited access to treatment, political instability, violence, and social stigma. Organizational barriers included an overburdened and under-resourced health system with high staff turnover. Despite high levels of stress and burnout among health professionals, several provider-level facilitators emerged including a high receptivity to, and demand for, mental health training; strong community relationships through the community health workers; and overall acceptance of IPC delivered by any type of health provider. Patients were also receptive to IPC being delivered by any type of professional. No intervention-specific barriers or facilitators were identified. Despite many challenges, integrating depression treatment into primary care in Itaboraí using IPC was perceived as acceptable, feasible, and desirable.

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Tuberculosis (TB) is one of the leading infectious causes of death globally, and Brazil is one of the top 30 highest burden countries (World Health Organization [WHO], 2022). Depression comorbidity is high and is associated with all negative outcomes (Duko et al., 2020; Ruiz-Grosso et al., 2020). The End TB Strategy 2015 to 2035 explicitly calls for patient-centered care including the integration of TB and mental health treatment (Uplekar et al., 2015). Brazil also has a high rate of common mental disorders with a lifetime prevalence rate of 44.8% among its population (da Silva et al., 2021). However, access to adequate mental health treatment is limited; despite a comprehensive community-based mental health plan, system challenges include limited services available, poor integration, and fragmented care (Razzouk et al., 2020; Sampaio & Bispo Júnior, 2021).

The city of Itaboraí has the highest incidence of TB in the state of Rio de Janeiro (Soares et al., 2017). Despite recognition as a model program in the country in the early 2000s, innumerable political changes, the reduction of personnel in the primary care system, irregular payment of salaries, and reduced resources in the health area hurt program performance. In 2017, a total of 149 TB cases were identified, with a cure rate of 68.5% and loss to follow up in 10% (Brazilian Ministry of Health, 2018). In Itaboraí, mental health services exist, but most are centrally located and are not easily accessed by community members (A. Sweetland et al., 2016). The WHO and the Ministry of Health of Brazil have long recognized that training primary care professionals to identify and treat mental disorders, including depression, is the most viable strategy to increase access to mental health treatment in Brazil (WHO, & Brazilian Ministry of Health, 2007).

Interpersonal Counseling (IPC) is an evidence-based treatment for depression that can be delivered by non-mental health specialists under supervision from specialized professionals (Weissman et al., 2014). In a pilot trial in São Paulo, community health workers (CHWs) were trained to offer IPC: 25.6% of the participants achieved >50% reduction in symptoms and 28.2% achieved complete remission (Matsuzaka et al., 2017). Although more research is needed, the findings suggest that IPC may be an acceptable, viable, effective, and economical way to improve access to depression treatment in primary care in Brazil. The objective of this study was to explore the barriers and facilitators to primary care providers delivering IPC for mild- to moderate depression within the TB Control Program and in two primary care facilities in the municipality of Itaboraí.

METHOD

This qualitative study was carried out between September 2016 and October 2017 in the municipality of Itaboraí, Rio de Janeiro. The study was conducted in partnership with Columbia University/New York State Psychiatric Institute, the Federal University of Rio de Janeiro, and the Itaboraí Municipal Health Secretariat and TB Control Program. Ethics approvals were obtained by the Institutional Review Board of the New York State Psychiatric Institute, the Psychiatric Institute of the Federal University of Rio de Janeiro and by the National Research Ethics Committee of Brazil (CONEP).

The data collection consisted of six focus groups with a purposive sample of health providers, program coordinators, and persons with TB. The focus groups had between 5 and 10 participants and lasted between 60 and 90 min. All sessions were audio-recorded and transcribed verbatim. Open questions included the degree to which TB and depression were considered a problem in Itaboraí, the role of stigma related to TB and mental health, and the barriers and facilitators to integrating mental health services in TB care at the primary care level (see supplemental files for focus group guides). Data collection and analysis were conducted in Portuguese; translation occurred at the stage of manuscript preparation by bilingual members of the research team. An open narrative approach was used to code and analyze focus group data (Stewart et al., 2007), followed by deductive coding using Chaudoir et al.'s multi-level framework for implementation outcomes (Chaudoir et al., 2013). The Chaudoir framework identifies five types of factors that drive of implementation outcomes: structural, organizational, provider-related, patient-related, and intervention-related. All transcripts were reviewed by three authors, coded for content, analyzed and discussed for agreement.

Sample

The final sample consisted of 42 individuals including 29 health professionals, 7 health program coordinators, and 6 persons with TB. Of the 42 participants, 32 were female and 10 were male. The health professionals represented various professional categories 4 doctors, 3 nurses, 1 nurse technician, 19 CHWs, and 2 administrators.

Chaudoir Level	Barriers	Facilitators
Structural: geographical, political, economic, and cultural conditions of the area (i.e. municipality, city) surrounding the location of care	Violence Poverty and unemployment Limited access to treatment Political unrest Stigma against TB and mental health	
Organizational: clinic-level features and interactions between clinic personnel and other programs within the primary care system	Understaffing and work overload Staff turnover	
Providers: health providers who would deliver the intervention (i.e. primary care workers of different levels)	High levels of stress among professionals	Receptivity and demand for mental health training Strong relationship of trust with the community Acceptability of professionals at all levels to apply IPC with proper supervision
Patients: recipients of the intervention; persons with depression, with or without TB		Acceptability of any type of professionals delivering IPC as long as they have the right personal "profile" (personality characteristics) Preferences vary by individual regarding type of treatment desired (e.g. talk therapy vs. medications), location of services (clinic or community based), individuals vs. group modality, or demographic mix of participants.
Intervention: Interpersonal Counseling (IPC)		There was an overall receptivity to IPC as an intervention though few specific comments were raised, presumably since participants were not familiar with the intervention.

FIGURE 1 Chaudoir Multi-Level Framework for Implementation Outcomes

Setting

Itaboraí is a city located in the metropolitan area of the State of Rio de Janeiro and has an estimated population of 244,416 inhabitants, with a demographic density of 506.55 inhabitants per km² (Instituto Brasileiro de Geografia e Estatística, 2017). During the study period, Itaboraí was experiencing a moment of acute political and economic crisis. In the year prior to the data collection, an oil refinery (Complexo Petrolífero—COMPERJ) located in the municipality was involved in political scandals that led to its closure and, as a result, tens of thousands of Itaboraí residents lost their jobs. During the period of data collection, the President of Brazil was impeached, the municipality of Itaboraí experienced three changes in the leadership of the Secretariat of Health, and health workers across the state of Rio de Janeiro were not paid salary for almost 5 months.

RESULTS

There was universal consensus across groups that there is a great need for mental health services in Itaboraí, not only for people with TB but also for the entire population. Increasing needs for mental health services were attributed to high levels of poverty and unemployment, political instability, and violence in the communities. Moreover, the health system in Itaboraí was severely under-resourced, resulting in high levels of stress and burnout among health professionals. Several potential facilitators emerged, among them a very high receptivity and demand for training in mental health; high levels of trust with the community by the CHWs and overall acceptability of the proposed intervention. Findings are summarized in Figure 1.

Structural Factors

Focus group members noted many structural barriers to implementation related to poverty and unemployment, limited access to treatment, political instability, high levels of violence in the community and stigma related to mental health and TB. No structural facilitators were identified.

Poverty and Unemployment. Several participants reported an increasing number of cases of depression in the communities due to socioeconomic stress, unemployment (from the closure of COMPERJ), violence, and drug trafficking in the region:

> There are a lot of unemployed people, because COMPERJ was close by, so there were a lot of people without a job, so they are in a very financially complicated situation, many children, people here have many children, young people. So, you see a level of depression, just like that, due to the financial situation. (Health professional)

> So there is a lot of financial crisis, here it is very big, so people, there are a lot of miserable people, they are not poor, there are some poor people who need financial support and they end up not having it, falling into depression. (Health professional)

Limited Access to Treatment. In the face of a significant need, there was very limited access to specialized mental health treatment:

> The difficulty of being seen, of receiving (mental health) attention outside of here. We arrive here, we talk, but referring this person out is the biggest obstacle, because then, getting a consultation, an appointment, getting a prescription, only Jesus. So it is, well, very complicated. (Health professional)

> Sometimes we refer them, and we know that the city is drowning in patients and that the professionals can't handle it. I think that to deal with everyone who has depression today, we need to hire a battalion of psychiatrists and psychologists and of, you know, and that if we stop to assess closely, truly closely, all of us, I think, that at some point we had or will have depression at some point . . . (Health professional)

Political Factors and Interrupted Salaries. One of the barriers identified by the majority of focus group participants was related to the acute political and economic crisis underway in the municipality of Itaboraí. After the closure of the oil refinery COMPERJ, many people were unemployed and the crisis also impacted the health sector. Many professionals in the primary health care network did not receive their salaries in full, and a hiring freeze led to significant workforce shortages.

> There is the group that is three to four months behind on their salary . . . where are you going to get money from to come to work? I have another job, but my other job is not to come here. There are these things, so when you put it all together, the situation is not favorable. Good will exists, but . . . desperation is hitting people. (Health professional)

Community Violence. Some participants identified an increase in community violence as a challenge for their work, which has contributed to the increase in poor mental health; exposure to situations of violence was also frequent, since many clinics were located in very poor and vulnerable communities:

> The street I work on is terrible . . . there was a day when I had to go to work at 10 am, I had to run to the unit because there was nowhere to go. (Health professional)

Social Stigma of TB and Mental Health. When asked how TB affected people's lives, most participants replied that TB is still very stigmatized, especially among those who lack adequate knowledge about transmission and treatment:

> I think that since the person diagnosed with tuberculosis fears prejudice, many people still have prejudice against the 'tuberculous person' and until the person gets to the treatment . . . person will think that [the patient] will spread it . . . Then he sees that [the patient] is not that bogeyman, so at first the person ends up being afraid. (Health professional)

The combination of TB and mental disorders such as depression was perceived to amplify risk of stigma and prejudice:

> If the guy already has the stigma of being with TB, but when it is said that the guy has a mental disorder, whatever it may be, then the prejudice gets much worse . . . it's 1000 times greater, because nobody wants to be depressed in fact, using medicine to treat. (Health professional)

Furthermore, the comorbidity between TB and depression was perceived to amplify resistance to seeking mental health treatment, especially with a psychiatrist:

> If the person with TB was unable to cope well with the diagnosis and developed a depressive condition, does he have resistance to taking any mental health action? Most do, okay! So much so that my first line is like this: "I'll refer you to the psychologist . . ." "No, but I'm not crazy." "Look, but I'm not sending you to the psychiatrist, I'm sending you to the psychologist, it's not to take medicine, it's to talk. And, even so, many don't want to." (Health professional)

> We see that there is a denial . . . The person receives the (TB) test, it is positive, that sputum you did with a smear and it is confirmed that it is TB and the person denies it, we realize . . . It's even more delicate if we identify that the person has a depressive history. "Who told you?"; "Ah, but you are a doctor! Where is it written, what did I do to indicate that I have depression?" So I think the acceptance is quite complicated, the identification too (. . .) And even more so if you tell them that they need psychological guidance. (Health professional)

Organizational Factors

Several organizational or clinic-level barriers emerged, including understaffing and high levels of turnover; no clinic-level facilitators were identified.

Understaffing and Work Overload. One commonly recognized organizational-level barrier was excessive workload; in Itaboraí, many primary care teams were incomplete, and this led to overworked professionals:

> Most (primary care) teams are incomplete. If you are going to analyze it coldly and you are going to look at the municipality's primary care network, I am sure there is not a single unit who has a complete team as it has to be. There are many weak teams, a lot of primary care units without doctors . . . (Health professional)

> I think that if we are going to see everything as an increase in work, we will not do anything else, because we are overloaded. Which professional today is not overworked? I don't know any who aren't. That doesn't have 2 jobs, and will still accumulate the role of mother, housewife, wife, right? So, if we are going to think of this as another accumulation of work, nobody is going to do the job, I think we have to see things as everything in life, on the positive side . . . (Health professional)

Staffing Turnover. In addition to the insufficient professionals in the primary care teams, high turnover among them was an additional challenge:

> In my team, for example, I don't have five CHWs, so the point is that they were sent away, in 2016, two were not replaced . . . So, I have this lack of five CHWs. So, that would be a barrier (to the integration of services for depression). (Health professional)

Provider-Related Factors

High levels of burnout and stress among health professionals were identified as prominent barriers to implementation, while several provider-level facilitators also emerged. Among these were a very high receptivity and demand for training in mental health; strong relationships of trust with the community by the CHWs; and the general acceptability of professionals of any level (including the CHWs) to deliver IPC.

High Levels of Stress and Burnout. Another theme that emerged as a potential barrier was the high level of stress among health professionals. The cumulative effects of work overload and the increasing violence within the community affected the mental health of these workers, some of whom suffered from depression themselves:

> Everyone knows me but nobody notices . . . I'm also getting into a depression, but my doctor told me to look for a psychiatrist, but like, I put God first and I don't accept this . . . I have been one year without watching television, one year without going out to dance, which are the things I do, I mean, I know that all the symptoms I'm talking about here are of depression. (Health professional)

> If I'm sick in my team, no one realizes that I'm sick, and people don't help you from your own group, often times. Because they don't realize that you're getting sick and they don't help you, they don't notice that you're sick. (Health professional)

> Something, some kind of intervention to give emotional support to the teams, because let's say it like this, because it is lacking. There isn't any, anywhere . . . (Health professional)

Receptivity and Demand for Mental Health Training. Primary care professionals expressed a strong interest in mental health training:

> We come willingly, with pleasure, we like it (training). Because we feel this need to be better qualified to be able to go to the house . . . It's not for the doctor, nurse, it's not for the technician, but it's for us (CHWs). So, from the moment we enter this house, we have to take advantage of this opportunity and the more I know, the more I will help this family. (Health professional)

Integrating mental health services within primary care network was also seen as a potential way to improve primary prevention and reduce referrals:

> I find [IPC] interesting because it is another tool for us to fight, you know, the referrals that we have in psychiatry . . . I'm sure that the primary care center was designed to relieve the burden, the amount of people who go to the hospital. It is a very important tool for people to fight (mental illness) at the root (community). (Health professional)

Although learning to address mental health among patients may initially represent an additional work burden, it was seen to be an advantage in the future to facilitate work:

> I think it is a matter of more initial work. But once the wheel turns . . . that patient that initially gave you more work he gets so well after he stops being work and then what was initially a lot, then becomes little. (Health professional)

Strong Relationship of Trust With the Community. The fact that CHWs are residents of the communities they serve was also seen as an advantage to facilitate communication with community members:

> The important thing is, how they are talking there, yeah . . . sometimes they speak better with us than with their own family members. (Health professional)

This close relationship also allows CHWs to move through the community to carry out home visits, despite the increase in violence:

> I have no problem with my community because, in reality, people know me. So I come in my uniform, come day, each day . . . (Health professional)

Acceptability of Professionals at All Levels to Deliver IPC With Supervision. In all focus groups, the idea of implementing a new mental health intervention was widely accepted. Many identified CHWs as professionals who could deliver such an intervention, but only with supervision by a mental health specialist:

> I think that maybe there was a good acceptance from the patient . . . I think that probably with us (CHWs) they would have a better acceptance than referring it to a specialist. I think they (the CHWs) would be able to manage that patient even to send to the specialist, if necessary, but let's say because they are the ones who follow up, and let's say this, the patient trusts them, they already created a bond. (Health professional)

Patient-Related Factors

The only patient-related factor that emerged in the focus groups was that consensus emerged that it would be acceptable for any type of professional to deliver IPC (e.g., nurse vs. CHW), as long as the provider had the right personal "profile" (personality characteristics).

> If [CHWs] are trained early, I think it is valid. Because if the person is trained, then they have the knowledge, then they will explain, they will make the person understand what it [IPC] is . . . (Person with TB)

When asked their opinions about patient preferences regarding the type of treatment (talk therapy vs. medications), location of services (clinic or community-based), individuals vs. group modality, or demographic mix of participants, the consensus was that preferences are highly individual, and no broad generalizations could be made.

Intervention-Related Factors

There was an overall receptivity to IPC as an intervention though few specific comments were raised, presumably since participants were not familiar with the intervention.

DISCUSSION

There was a strong consensus among all participants about a great need for treatment for depression in Itaboraí, not only for people with TB, but for the whole community. This meant that, although the study was initially focused on patients diagnosed with TB and depression, it became clear that IPC could be easily applied within primary care in general. Although there are specialized mental health services in Itaboraí and throughout Brazil, they are usually centrally located and therefore out of reach to many community members. Moreover, the specialized clinics often prioritize high-severity mental health cases. This, combined with long waiting lists, means that people with mild to moderate symptoms frequently do not receive any mental health treatment. Integrating mental health services in primary care in Brazil has been identified as a promising strategy to expand access to treatment and improve mental health care outcomes (Dos Santos Treichel et al., 2021; Matsuzaka et al., 2017; Moscovici et al., 2016).

One of the most surprising and encouraging findings of this study was that, despite considerable challenges, we observed a strong receptivity to the idea of training primary care workers to deliver IPC. Contrary to what is often observed in other contexts in which treating mental health is seen as an additional work burden (Cubillos et al., 2021), in this context it was seen as an opportunity to reduce referrals as well as bring services closer to the community, which is consistent with findings from other research in Brazil (Quinderé et al., 2013).

There was also a general acceptance of the idea of training any level of health professionals (especially CHWs) to identify and treat depression using IPC. A qualitative study in São Paulo found training CHWs to deliver IPC was acceptable and led to positive personal growth (Braga, 2017). CHWs are members of the communities they serve which facilitates trust which was seen as an implementation advantage (Brazilian Ministry of Health, 2009; Grossman-Kahn et al., 2018). CHWs also have less turnover than other health professionals, which reduces the need for repeated training.

When asked to specify perceived treatment preferences (e.g., talk therapy vs. medications, individual vs. group interventions), most answered "it depends on the patient." In other words, consensus across all focus groups was that no implementation strategy would be ideal for all individuals; instead, the ideal program would use a person-centered approach, in which the type and format of the mental health intervention would be tailored to individual needs and preferences.

A significant implementation challenge was the high level of burnout among health workers. Despite the relatively neutral nature of the focus group questions, they evoked emotional reactions among health professionals who described their own challenges with mental health. Primary care workers in Brazil have high risk for burnout and depression given their proximity to the community and difficult working conditions (Lima et al., 2018). Successful integration of mental health services in primary care in Brazil will likely require elements of self-care to prevent burnout among health workers.

Training non-specialized workers to deliver IPC in primary care is consistent with the Brazilian national health strategy, wherein most health promotion activities take place at the community level by primary care workers, with expert consultation from specialist support teams that often include psychologists (Quinderé et al., 2013). Brazil has nearly 300,000 CHWs providing care to two thirds of its population, making them suited to delivering this intervention (Lotta et al., 2020). This compatibility suggests that there is a sustainable mechanism through which the pilot could inform integrated mental health care throughout Brazil.

Focus group participants identified stigma as a significant challenge for persons with TB and/or mental disorders. Some providers lack experience and fear working with these populations, which exacerbates the social stigma. Awareness campaigns may help to demystify TB and mental disorders to reduce stigma (Sampaio et al., 2021).

Despite several barriers to mental health and primary care integration, there is also a high receptivity to this approach from health coordinators, providers, and patients. Identifying and treating mild to moderate cases of depression at the primary care level has the potential to expand treatment access in settings like Itaboraí. However, addressing the mental health needs of primary care workers will likely be required for the success of such a strategy.

CONCLUSIONS AND IMPLICATIONS

Despite calls for an integrated approach to TB and mental health and global receptivity toward it, progress to date has been slow. This is due, in large part due to scarce mental health resources and capacity, as well as limited knowledge about how to integrate care (A. C. Sweetland et al., 2019). This landscape is rapidly shifting; the new 5-year Global Fund strategy 2023–2028 includes mental health care integration into TB and HIV care platforms as a priority for the first time, and more knowledge is needed about how integration can best be achieved. This formative study explores the perceived barriers and facilitators to training non-specialist workers to deliver IPC to individuals with depression (with or without TB) in the Brazilian context in preparation for a 1-year pilot study to advance practical knowledge on this point. Our study characterized possible implementation barriers and also found widespread receptivity to and demand for mental health training and acceptability of IPC delivered by any type of health provider. Despite the challenges, integrating depression treatment into primary care in Itaboraí using IPC was perceived as an acceptable, feasible, and desirable option.

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SUPPLEMENTAL MATERIAL

Supplemental material for this article is available at https://journals.sagepub.com/home/hpp.

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