Research Paper

Cadres' Experience Regarding Tuberculosis Implementation During COVID-19: Differences and Challenges: A Qualitative Study

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ABSTRACT

Background: The prevalence of tuberculosis cases globally continues to increase, with countries that had a high burden of tuberculosis in 2017 accounting for 87% of all cases reported worldwide. The rules that strengthen national strategies and guidelines for eradicating tuberculosis are outlined in presidential decree No. 67 of 2021, which emphasizes the role of cadres and the community in the national tuberculosis control program. This study aimed to understand community health cadres' experiences in implementing tuberculosis programs during the COVID-19 pandemic.

Methods: The study employed a qualitative design with an interpretive phenomenological approach. This research was conducted at Inisiatif Lampung Sehat, a Sub-Recipient Community in Lampung, Indonesia. The eligibility criteria were tuberculosis community cadres, patient supporters, and case managers. A total of 26 informants contributed to this study during the second to third week of May 2022. The interviews were recorded and lasted an average of 45 to 60 minutes. Most of the participants were cadres (65.4%). More than two-thirds (70.37%) of the participants were aged 41 to 50 years and all cadres were women.

Results: Two themes emerged from the participant's plots: the non-personal function aspect, which related to classifying experiences regarding the types of activities and health policies implemented, and the personal function aspect, which derived from the individuals involved in the participants' experiences, such as TB suspects, TB patients, the cadres themselves and the organizations.

Conclusion: Cadres played a significant role during the pandemic through many activities and helped connect all parties involved in the limited implementation of tuberculosis programs at that time.

Keywords: Cadres, Experience, Outbreaks, Tuberculosis

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Introduction

Tuberculosis (TB) is an infectious disease caused by bacterial contamination that is a global concern and a global emergency because of the high infection and death rates [1, 2]. The prevalence of TB cases continues to increase globally, with countries that had a high burden of TB in 2017 accounting for 87% of all cases reported worldwide. The countries contributing two-thirds of the global total are India (27%), China (9%), Indonesia (8%), Philippines (6%), Pakistan (5%), Nigeria (4%), Bangladesh (4%) and South Africa (3%).2 TB as an "old" invented infection is still a communicable disease in Indonesia [3-5].

The 2014 national tuberculosis control guidelines state that the government's efforts to achieve success rates include health promotion about TB for families and communities. In addition, efforts to control risk factors b involve administering BCG injections as part of the strategy (find and get cured completely/temukan obati sampai sembuh) and providing logistics of Anti-TB drugs (obat anti TB). Successful TB treatment can be achieved by implementing the national tuberculosis control strategy [6, 7].

The rules that strengthen national strategies and guidelines for eradicating TB are outlined in presidential decree No. 67 of 2021, which emphasizes the role of cadres and the community in the national tuberculosis control program [3, 8]. Efforts to increase the role of these cadres will increase the effectiveness of the program implementation based on the district area (district-based public-private mix), such as improving patient independence in carrying out TB treatment and strengthening TB program management [9].

The COVID-19 pandemic substantially hindered the implementation of many communicable disease programs in the community [10-12]. Existing research regarding TB program implementation in Indonesia is quite limited. A previous qualitative study in Indonesia found that health cadres play a substantial role in supporting TB patients and their families, but it did not specifically address whether the COVID-19 pandemic affected this support. Another Indonesian quantitative study examined healthcare professionals in the context of private healthcare facilities regarding TB diagnosis during the COVID-19 pandemic [9, 13]. To our knowledge, there are few studies focused on exploring the experiences of health cadres during the implementation of TB programs in the COVID-19 era. As the participants were primarily members of the community, in which they live, this study approached their experiences through a qualitative design. This method was chosen due to the limited previous studies that could provide a baseline for this issue [14] Therefore, this study aimed to gain an understanding of the experience of community health cadres while implementing TB programs during COVID-19 and to comprehend what they perceived as differences between the period before COVID-19 and during COVID-19.

Methods

Samples and locations

This study was conducted in one sub-recipient community in Lampung, Indonesia, which focuses on managing the TB program. Inisiatif Lampung Sehat (ILS) has a well-equipped organization and is one of the community sub-recipients providing support for the TB program for the Province of Lampung. Coordination is managed through the Provincial Coordinator, while project officers oversee each district/city, where all cadres work within the sub-district health centers. Case managers coordinate patient support for multi-drug resistant TB (MDR TB) patients. The total number of participants was 26, including case managers, project officers, patient supporters, and cadres.

Design

This study used an interpretive phenomenological approach to understand the experiences of health cadres, specifically regarding TB program implementation (case detection and medication support). This approach allowed us to capture both positive and negative perceived experiences. This study's objectives were to explore the experience of community health cadres while implementing the TB program during COVID-19 and to comprehend what they perceived as differences between the periods before and during COVID-19.

Data collection

Data collection was done in May 2021 in collaboration with a non-government organization, the sub-recipient community, which focuses on TB management. Data were collected using a recorder and field notes as resources. Each in-depth interview lasted between 45 and 60 minutes.

Instruments

The instrument used consisted of five semi-structured interview guidelines, with five questions serving as the foundational inquiries. 1) What differences were felt in mentoring patients before and during COVID-19 (this included case finding and the investigation of contacts: Household contacts and non-household contacts, as well as community and surrounding environments); 2), What actions were taken that differed before and during COVID-19 ? 3) How does it feel to supervise or assist TB treatment patients during the COVID-19 pandemic? 4) What obstacles/difficulties/challenges did you face in providing support to TB patients? 5) What are the hopes of cadres in facilitating patient support?

Data analysis

The audio recordings were transcribed verbatim by all researchers who conducted each in-depth interview using Microsoft Word. Participants were not identified and were coded in the transcripts to ensure anonymity. The transcripts were subsequently checked by two other researchers to enhance accuracy. We used thematic analysis with the following steps: Transcription, familiarization with the data, selection of quotations, selection of keywords, coding and theme development [15]. Data were analyzed in the form of themes by identifying similarities and differences in data in the interview data, which were then grouped into broader categories of meaning that were more abstract and comprehensive.

Results

All participants were from one sub-recipient community that was established for the TB implementation program. The sociodemographic findings are summarized in Table 1. The themes found were described in Figure 1.

A total of 26 informants contributed to this study. Most of the participants were cadres (65.4%). The majority of participants were female and aged 41 to 50 years. Moreover, most participants were senior high school graduates, with an average age of 43 years. All participants were from three districts: Pesawaran, Pringsewu, and South Lampung, as well as one city, Bandar Lampung.

Participants' experiences regarding TB implementation varied before and during the COVID-19 pandemic era. This study highlights the COVID-19 period from its onset in 2020 until the end of 2021 when COVID-19 cases increased and social distancing measures were implemented in Indonesia.

Two themes emerged from the participant's narratives: The non-personal function aspects, which classified experiences based on the types of activities and health policies implemented and the personal functional aspects, which were derived from the individuals involved in the participants' experiences, such as TB suspects, TB patients, the cadres themselves and the organizations.

Non-personal function aspect

Participants described their experiences as being mostly stressful due to their activities and the health policies that were implemented during COVID-19.

1) The types of activities emphasized the differences between before and during COVID-19, highlighting the contrast between the two eras. Participants' experiences regarding the types of activities include:

a. Indirect vs phone communication

"This pandemic has been very, very different, very far away. We can't meet face to face, we can only communicate by phone" (P9-cadre). "Also, sometimes patients and companions only hear voices... We used to meet in person" (P6- patients supporter). "...it was mostly virtual assistance" (P2_case manager).

b. Unlimited vs limited

"Before COVID-19, we used to visit without being restricted. For example, during contact investigations, we were free. But after COVID-19, our access was limited" (P 12-cadre). "So that's it, we still go to the field. COVID-19 restricts us from going out, right? So, if every medicine is taken, the cadre takes it from the health center and delivers it to patients" (P11-cadre).

c. Maximum number of participants in health education

"Before COVID-19, they would come in droves. We had up to 40 people" (P10-cadre). "During COVID-19, the sessions were not held as frequently, so there were fewer attendees. We also counseled only a few suspects. Additionally, some mosques were closed" (P13- cadre).

d. Prohibition of mass health education

"But during COVID-19, indeed we as cadres are not allowed to go out. We are not allowed to go out even for counseling or to visit patients" (P11-cadre). "Before COVID-19, we could gather people for a contact inves-

Table 1. Participants' demographic characteristics, tuberculosis cadres in Bandar Lampung (n=26)

Parameters		No. (%)	Mean
Gender	Female	21(80.8)	-
	Male	5(19.2)	
Age (y)	21-30	2(7.7)	43
	31-40	6(23.1)	
	41-50	16(61.5)	
	>50	2(7.7)	
Education	Primary education	1(3.8)	-
	Junior high school	2(7.7)	
	Senior high school	18(69.2)	
	Diploma or higher	5(19.3)	
Job title	Cadres	17(65.4)	-
	Patients' supporter	4(15.4)	
	Case manager	2(7.7)	
	Project officer	3(11.5)	
Duration of participation in health program (y)	1-3	9(34.6)	-
	3-6	9(34.6)	
	>6	8(30.8)	
	Total	26(100)	

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tigation. During COVID-19, we want to gather people, it's difficult, we can't (P8-cadre).

2) Health policies during COVID-19

a. Social distancing during hospital visits during COVID-1. "As much as possible, there should be no accumulation in the hospital" (P6-project officer).

b. Shortening the duration of services

"During COVID, health center services were limited, operating from 9 AM to 12 PM and then it was closed. The examination times were constrained; for TB, it was only on Tuesdays and Thursdays" (P8-cadre).

c. Restrictions on the distribution of anti-TB drugs

"During COVID-19, it was allowed to dispense anti-TB drugs for one-month supplies" (P12-cadre).

d. The COVID-19 Swab room and TB sputum collection room were closed. "The TB outpatient room is the same as the one for checking people who have COVID-19, it's closed" (P12-cadre).

e. Hospital's admission requirement: Swabbing before admission

"Since COVID, the hospital has been very strict when we must visit our patients. We have to be careful" (P5-Patients' supporter). "When the patient condition worsens, they must go to the emergency room and undergo a PCR swab, which causes patients to choose not to go to the hospital because of the complicated admission procedure" (P15- Patients' supporter).

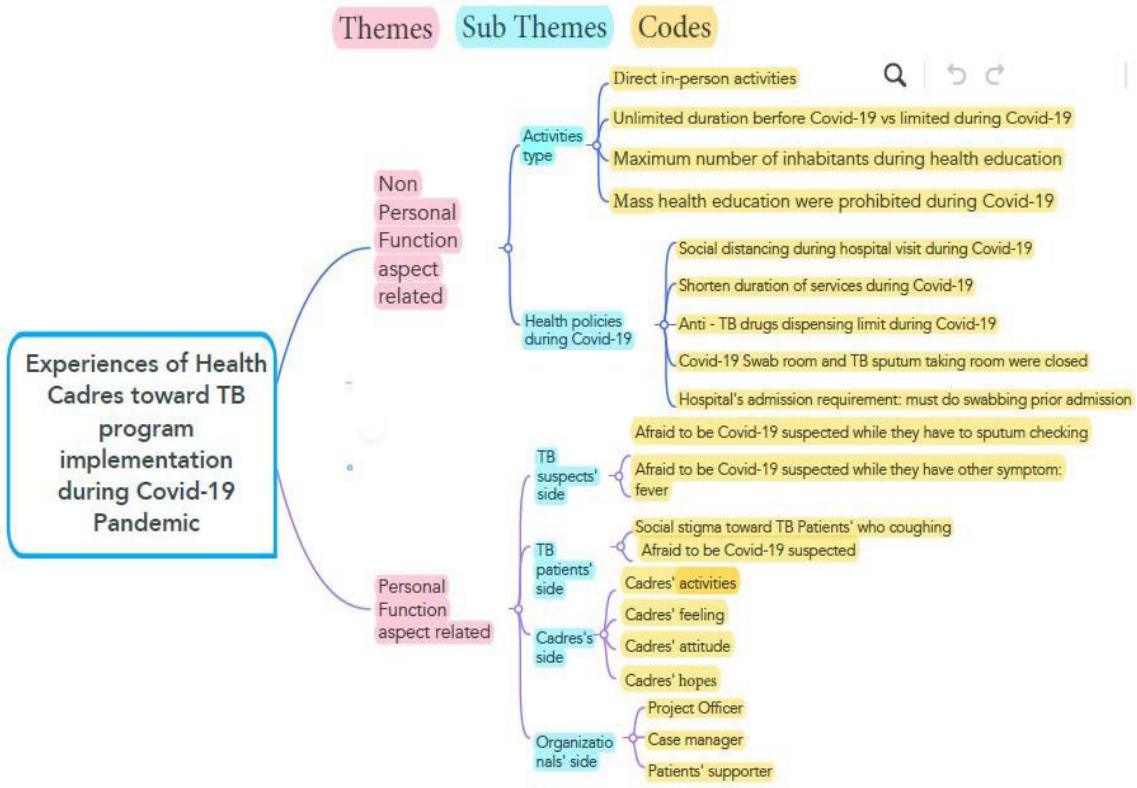

Figure 1. The coding tree from participants regarding their experiences in implementing the TB program

Personal function aspects

This study gathered experiences from the whole sub-recipient community organization. Therefore, their experiences could be classified based on both the participants' experiences and their perceptions of TB suspects and TB patients with whom they interacted.

1. TB suspects' perspective

a. Afraid of being suspected of having COVID-19 while needing to undergo sputum testing. "Many inhabitants were afraid of being suspected of having COVID-19 during those times. They rarely intended to undergo swab testing. 'Ah, I'm afraid; I'm afraid of being suspected of having COVID-19,'" (cadre imitating how the inhabitants spoke)" (P8-cadre). "During the COVID-19 pandemic, many people were afraid. So, I'm afraid (cadre imitating the way inhabitants spoke). I'm going to think it's COVID-19 ; I don't want them to pierce my nose, I hate it" (P13-cadre).

b. Afraid of being suspected of having COVID-19 while experiencing other symptoms, such as fever

"They did not want to get checked; they were afraid. They didn't want to check their sputum; they felt feverish and didn't want to go to the health center either." (P9-cadre)

2. TB patients' perspective

a. Social stigma toward TB patients who cough

"Society's stigma towards patients who have a slight cough is getting worse because our patients are considered to have COVID-19, because the symptoms of TB and COVID are the same, such as coughing" (P3-project officer). "Especially when they were admitted to the hospital, they were afraid, and the stigma from other people was negative" (P3-project officer).

b. Afraid of being doubly diagnosed with COVID-19

"Our patients, if they have TB, are afraid that they will also be considered to have COVID-19 " (P3-project officer).

3. Cadres' perspective

a. Cadres' feelings

"In the past, before the pandemic, we just relaxed and enjoyed ourselves. Now, there are many obstacles be-

cause, for example, when we visit a patient, we have to be extremely cautious" (P14-cadre). "There is still fear inside. But Alhamdulillah, we have been safe" (P12-cadre). Because we are the ones who visit the patient's home, sometimes we feel… not welcomed—like we are being rejected" (P14-cadre).

b. Cadres' attitude

"Doing health education was prohibited during the pandemic. But because we have a cadre identity, we continue to push forward" (P11-cadre). "We are already wearing standard masks, so sometimes what we are afraid of is our family, especially when we are not affected and not feeling well" (P8-cadre). I think I have a moral responsibility. The first time I became a cadre, I met a patient who had TB, and that's why he left his wife. I got the news that the person was treated and died" (P12-cadre).

c. Cadres' hopes

"Those who are infected with TB are not just from the upper-class economic group. I hope for continuous collaboration between our sub-recipient community and global financial supporters" (P14-cadre). "The hope is that, as cadres, especially in this sub-district, our society gets more knowledge and becomes more aware that being healthy is very important. So, hopefully, in this area, TB patients who are still on treatment could finish their medication and be free of TB" (P9-cadre). "The hope is that we, as cadres, will also receive concern and care. So, when we want to go to the field, we feel afraid; for example, regarding masks, yes, we need facilities" (P7-cadre).

2. Organizational officers' perspectives

a. Project officer

"I feel afraid when carrying out assistance because of the issues and dangers associated with COVID-19 itself" (P4-project officer). "We hope that financial support in mentoring will be increased" (P3-project officer).

b. Case manager

"It's the same but that, it's just our hard work if our role is heavier. Our role is heavier in being aware of TB and being aware of the COVID-19 " (P2-case manager). "It's the same, but it's just our hard work; our role is heavier. Our responsibility is to raise awareness about TB and COVID-19 " (P2-case manager).

"I still hope we could go back to recovery situation like before COVID-19. MDR TB patients can sit together, and they commit to taking the medicine at the hospital in front of us" (P1-case manager).

a. "We hope that if this could be published, our statement and our stories would be beneficial for the society and improve the quality of the TB implementation program" (P1-case manager).

b. Patients' supporter

"But alhamdulillah, I'm happy to fulfill my role as a patients' supporter" (P6-patients' supporter). "I feel proud. I am doing this not merely for money or material gain. I purely want to help others" (P5-patients' supporter). "Yes, I hope my patient recovers; that's all, I hope the treatment is finished" (P6-patients' supporter).

Discussion

This study showed the crucial role of sub-province community organizations that coordinate implementation efforts alongside referral hospitals and health centers in combating TB during the COVID-19 pandemic. This context of this study is in line with an integrative review from several countries (India, Bangladesh, Pakistan, Sierra Leone, Kenya and Ethiopia) that emphasized the importance of community workers in areas, such as surveillance, and community education [12, 16, 17].

This study revealed that the connection of cadres to the communities they belong to was the primary rationale for the emergence of activity types related to non-personal functions and close relationships with community members. A previous Nigerian study showed that health extension workers, referred to as cadres in this study, are often undervalued in society and play a vital role in bridging the gap between the community and the healthcare systems [18]. This study, along with previous research, agrees that cadres played a significant role during the pandemic in assisting healthcare facilities with managing pandemics and other communicable disease burdens, such as TB [19, 20].

This study found that some cadres were eager to visit TB patients' homes during the COVID-19 pandemic, even though the locations were quite distant. Previous quantitative studies conducted in East Nusa Tenggara Province, Indonesia, reported different results regarding geographical coverage [3, 21, 22]. These studies showed that Indonesia is an archipelago with many islands, each having varying levels of infrastructure and healthcare facilities.

This study was done in a district near the city. Another difference is that the previous studies were conducted before the COVID-19 pandemic (January 2019), while this study was conducted during COVID-19 (May 2022) [23–26].

This study found that health cadres' feelings, attitudes, and commitment to implementing TB initiatives during the COVID-19 pandemic were very robust, despite all the difficulties during the pandemic. Yet, a previous study before the COVID-19 pandemic in Palu City found that there is a positive correlation between cadres' motivation and active case-finding activities [22]. Although both studies were set in a city near a coastal area, they utilized different quantitative and qualitative approaches. Some studies revealed that incentives and training can increase the motivation of health cadres [27, 28]. This study found that sub-recipient community organizations provided supportive coordination for the health cadres. Their involvement in TB implementation and motivation to ensure patients complete their medications were evident [29–31].

Stigma toward TB patients during the COVID-19 pandemic was also an important finding in this study. This issue is quite complex, as TB and COVID-19 are respiratory illnesses, with similar symptoms, such as coughing and fever. Cadres reported that it was challenging to persuade suspected TB patients to undergo sputum examinations during the COVID-19 pandemic [1, 32, 33]. Overcoming the stigma associated with TB, especially lessons learned during the COVID-19 pandemic, requires a multi-level approach that includes education, increasing awareness, patient-centered care, and community involvement [27].

This study revealed that cadres are striving to do their role in the TB implementation program because they recognize their importance to the community they serve [34, 35]. This finding affirms a previous study that indicated cadres maintain close relationships with the community and assist in bridging the gap between the community and healthcare systems [36, 37]. Cadres expressed the need for facilitation during the pandemic, such as personal protective equipment (PPE), which aligns with other previous studies [38, 39].

This study gathered data from participants who have worked for years in TB programs within the community, allowing for a detailed and in-depth examination of their experiences. The study observed participants doing some coordination meetings; however, the data collected may present a limitation that could affect the participants' responses [40]

Conclusion

Sub-recipient community organizations that coordinate implementation along with referral hospitals and health centers play a vital role in dealing with TB during the COVID-19 pandemic. Health cadres were significant contributors during the pandemic, assisting healthcare facilities in managing the pandemic and other communicable disease burdens, such as TB. Healthcare professionals must strengthen coordination and cooperation with health cadres, especially considering the lessons learned during COVID-19. Health cadres are passionate and make every effort to serve the communities from which they originate. This qualitative study revealed that health cadres need support, including protective equipment, during outbreaks of communicable diseases. This study was conducted in only one city in Indonesia using simple interview guidelines. It would be beneficial to conduct a quantitative study to measure the health cadre's abilities based on their experiences during COVID-19.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Ethics Committee of the research and community services, Universitas Pelita Harapan, Banten, Indonesia (Code: 118-IRB/PN-FoN-UPH/XI/2021). Each participant received the study's explanation (study's goal and procedures) before in-depth interviews began. Participants were also given the opportunity to ask for clearer explanations of their doubts to facilitate informed consent. Participation was voluntary, and participants had the right to withdraw from the study at any time. They were reassured that all statements shared were not considered right or wrong but were purely reflections of their personal experiences.

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Authors' contributions

Investigation: Theresia Theresia; Project administration, data collection, resources, visualization, and writing: Tirolyn Panjaitan; Validation, supervision and funding: Theresia Theresia, Lina Berliana Togatorop and Satriya Pranata; Final approval: All authors.

Conflict of interest

The authors declared no conflict of interest.

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