

Exploring The Barriers Of Community Participation In Prevention And Care Of Tuberculosis From Patients', Healthcare Providers' And Community Member's Perspective, In Boloso Sore Weda, Wolayta Zone , Snnpr, Ethiopia. A Qualitative Study

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Abstract:

Background: In developing countries, tuberculosis (TB) continues to be the major cause of morbidity and mortality. To reduce the loss of lives and economical burden that TB poses up on citizens, early case detection and successful treatment of infected cases are very essential mainly with active community participation in prevention and care of TB. This study was aimed to explore potential barriers to community participation in prevention and care of TB in Wolayta Zone of SNNPR, Ethiopia.

Method: Descriptive phenomenological research methodology was employed in the study. A total 64 participants were chosen using purposive sampling technique. Participants in the study were from various sections of society. Of these, 24 were TB patients on TB treatment and former TB patients who were recovered, 18 were health professionals and 21 were Key Informants which were selected from the community to provide key information. Data were gathered through focus groups and in-depth interviews. Using the NVivo 12 program (created by QSR International Qualitative Software Developer, Melbourne, Australia), interviews were audio recorded, verbatim transcribed, translated, and thematically analyzed.

Results: Numerous barriers of community participation in prevention and care of TB were recognized by the study's participants and were organized into four main themes and twelve subthemes: (1) From patient perspective, such as the patient's socio-political, economic and cognitive level, willingness of the patient to be part of community participation, the TB status of the patient and personal characteristics of the patient (2) From the perspective of health institutions, health facilities easily accessible, have enough trained manpower, have sufficient diagnostic and treatment resources, (3) From community perspective:- socio-

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economic and culture of the society ,willingness of society, previous experience of the community 4) From the perspective of government policies and guidelines which were being implemented currently, training volunteers from the community ,willing to provide logistics for volunteers, organization of civic associations

Conclusion: In conclusion, there are a number of patient-related, community related,healthcare system-relatedand policy related barriers thatimpend community participation, which is one of the way to success in prevention and control of TB. Enhancing community health literacy, scaling up access, and improving the caliber of TB diagnostic services, conducting routine supportive supervision and timely feedback, setting up routine on job training and motivating volunteers and working with local political leaders to address budgetary issues for TB and infrastructure challenges are essential interventions to improve the community participation.

Keywords: TB, Participation, Barrier Community

Introduction

Tuberculosis (TB) is among the leading causes of morbidity and mortality in the developing countries. The WHO reported 10 million new cases and 1.5 million deaths globally in 2021.¹ The 30 high-TB burden countries collectively contributed to 87% of the global TB burden where 24% of the cases were from African countries.¹ To reduce the high TB burden, countries have been implementing the WHO-recommended TB control strategies, at various time points; directly observed treatment short-course (DOTS); and Stop TB and End TB strategies. However, although there has been a general trend of decline in the global TB incidence, the reduction has been so slow, particularly in the African region because of various factors including poverty,¹⁻⁴ high TB/HIV/DM co-morbidities, drug-resistant TB (MDRTB), poor access to quality healthcare services, and low level of community awareness about TB and its participation in prevention and care of the disease.³⁻¹⁰ Ethiopia has adopted the WHO-recommended TB control and prevention strategy since 1994. The country has also been implementing the health extension program which is primary healthcare services at the community level and involved the private health sector Public-Private Mix DOTS to enhance the TB control and prevention activities and achieve the national case detection and treatment.¹¹ Despite all the TB prevention and care efforts, however, TB continues to pose a major public health threat in Ethiopia. Currently, the country is one of the 30 high-TB, TB/HIV and -MDR TB burden countries with a TB incidence rate of 151/100,000 population.

The magnitude of TB-HIV co-infection and MDR-TB was reported to be 7/100,000 and 1.4/100,000 populations, respectively.¹

Early diagnosis and treatment's objectives are to cure more people, stop the spread of healthy individuals, and stop the development of drug-resistant TB. However, in many sub-Saharan African nations, these objectives have not yet been met as predicted⁷ the causes of negativity limited access to a health institution and a lack of diagnostic supplies have an impact on early TB diagnosis.⁸⁻¹⁰ The costs of hospitalization, transportation, diagnostic tests, and medical care to patients in sub-Saharan Africa face additional difficulties¹⁷.

Furthermore, characteristics that are strongly linked to delayed TB care seeking include self-treatment, low educational status, and a lack of community awareness of the dangers of delaying care. There is a delay in seeking TB care among persons who have not received previous TB therapy and who have not coughed for a long time.^{18,19}

Early detection of new cases and treatment of infectious TB cases that have not been treated are of the utmost importance in TB prevention and care.^{1,12} Delays in case detection and treatment lead to increased TB transmission and illness consequences, which is a major concern for the global TB control program. For instance, it is believed that there are more than three million undetected TB cases worldwide.¹ Different woredas and regions of Ethiopia have different TB burdens and case notification rates^{9,12} The Wolayta zone, where the current study was carried out, revealed the low TB case notification rate among others of the SNNPR region.^{9,15} Only a small number of qualitative research have, to date, examined community participation and its obstacles to TB control and prevention from both the patients', healthcare providers' perspectives and community residents' perspective. From the view points of all potential stakeholders, little is understood about barriers it pose in the control and prevention of TB.^{12,16} In order to better understand the barriers of community participation in TB prevention and care, this study looked at it from the perspectives of patients, health workers (HWs) and community members in general what obstacles stand in the way of community participation in Boloso Sore Woreda, Wolayta zone, SNNPR region, Ethiopia

Conceptual framework.

The conceptual framework of the study is adapted from two theories, Healthcare utilization Model (HUM) by Ronald M. Andersen and the Social Ecological Model (SEM) by Urie Bronfenbrenner⁽¹⁹⁾. The two theories have been adapted because they both have tenets which are very relevant to the study and compatible with the objectives of the

study. The Healthcare Utilization Model, for instance, postulates that people's use of health services is a function of their predisposition to use services, influences which either enable or act as barrier to use, and their need for care ²⁰. The Social Ecological Model also has five nested, hierarchical levels (individual, community, organizational and policy/enabling environment) which are influential in the adoption of health decisions of individuals or community. The role of the community is also highly essential in the adherence to a particular health behavior by an individual, which in this case is participation ²¹.

The Healthcare Utilization Model, for example, captures community participation to TB care under the tenet of Enabling Factors. This participation is influenced by factors like community support system or family support, community level of awareness, accessibility to health facility, and proximity to TB services. The Healthcare Utilization Model also suggests that the community is aware of its role in TB care and prevention. Additionally, the community's understanding of the complications that can result from stopping TB treatment, the risk of a TB patient infecting others in the neighborhood, and the expense and burden that can result from TB drug resistance. Their involvement and commitment to TB care, management, and control efforts might be significantly impacted by TB.

Exploring the barriers that community participation face in prevention and care of TB was main goal of this study. These elements influence the roles that communities play in the control and prevention of tuberculosis, including raising awareness during social gatherings, addressing stigma, facilitating the implementation of the Directly Observed Treatment (DOTs) strategy, selecting community volunteers, community education and involvement, and assisting patients with some of their needs, such as DOT, food, and housing.

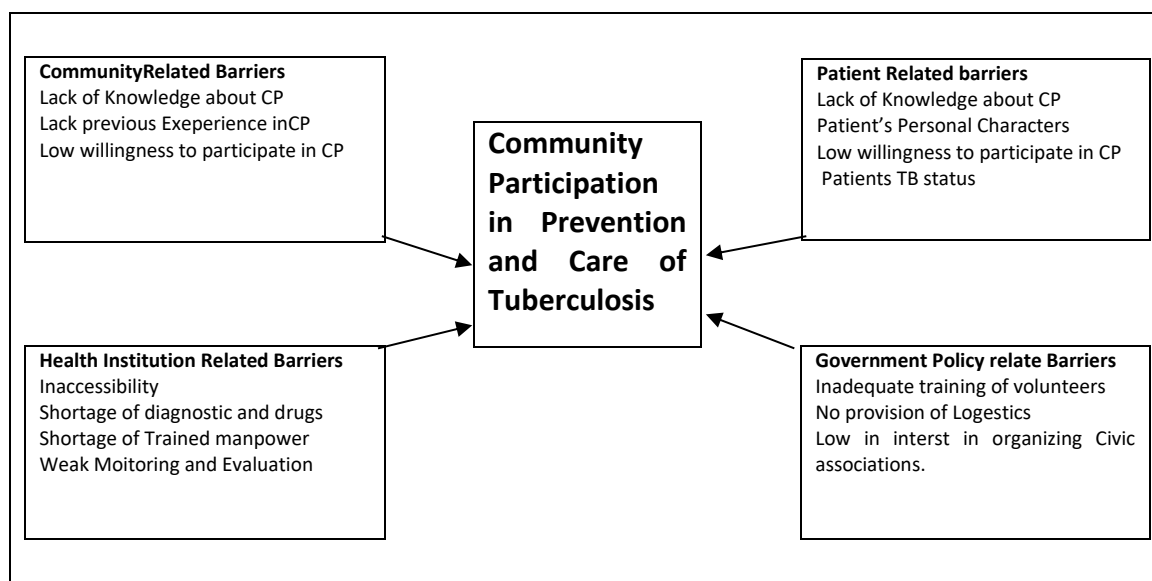


Figure1. Barries which affect the community paerticpppation in prevention and care of TB

Research design

We used a descriptive phenomenology study design. This design helped us to explore the lived experience of the study participants and assisted in interpreting their experience²⁵. In-depth interviews and focus group discussions (FGDs) were held with the different participants of the study until data saturation was achieved. This assisted our understanding of the individuals' collective experiences. These interactions focused on what members of the study populations have in common regarding their community participation experience in prevention and care of TB. Reflexivity is very important in this study. Therefore, I identified with the participants who were researched and must, therefore, constantly aware of my own experience that can potentially affect the result. Thus, the current study was not influenced by my own experience. I followed the three phases of bracketing. These are bracketing pre-action, bracketing in-action, and bracketing on-action. The first type of reflexivity was aimed at sustaining objectivity. It also reflects a strong positivist influence. The benefit of bracketing is the suspension of all kinds of biases and beliefs related to the phenomenon being researched before collecting data. The second was conducting a specific interview, and methodological development was undertaken. Third, I have implemented the new barriers of community participation experience from patients, health workers, and community that can be identified during subsequent interviews²⁶.

Study area and setting

I conducted the current study in Wolaita Zone, one of 11 zones (states) in southern Ethiopia. In this part of Ethiopia, Wolaita inhabitants are categorised as one of the Omotic language-speaking population groups, the native language of this zone being Wolaitigna, while the Amharic language is an official language in this zone. Wolaita Sodo, the capital town of the zone is 330 km southwest of Addis Ababa, the capital city of the country. It is also 160 km from the southern regional capital, Hawasa. In the northeast, Wolaita is bounded by Kambata Tambaro and Hadiya zones and the Oromiya state.

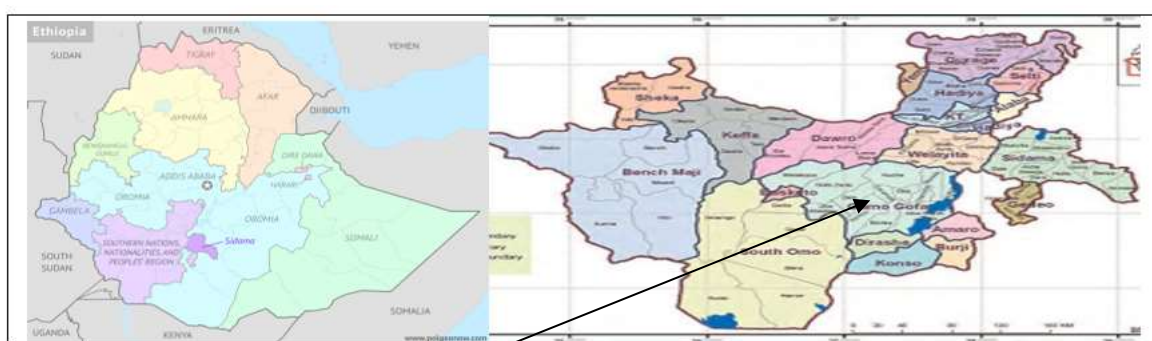


Figure 2: Map of wolyata zone, SNNPR, Ethiopia

The sample size for study

I used purposive sampling type. This method is known to produce a well-matched group for a study. Another benefit of the process is its utilization of the best available knowledge regarding the study participants in order to obtain a wide range of perspectives relating to the topic that I am interested in studying. A disadvantage is that it will be difficult to generalize the findings from this qualitative study. The participants were selected purposely from the five health centers and 10 health posts from rural woredas until information saturation was achieved²⁰. For both the in-depth interview and FGDs for the study, the participants were TB patients who were undergoing their treatment, cure TB patients, health care providers and key informants from the community.

Data collection

The investigator developed, the open-ended, in-depth interview questions and the FGD guides. Data collection was done by the principal investigator (PI), who was assisted by experienced research assistants (RAs) who spoke the local languages Wolaitigna and Amharic fluently. Each RA had a bachelor's degree in health science with a rich experience of qualitative data collection. The participating

RA were provided one day of training on the data collecting tool to familiarize themselves with the study. Therefore, they were involved in preparing for the note-taking, in-depth interview and the FGDs. I used FGDs, gathering 5 to 6 participants from similar backgrounds or experiences together to discuss their experiences of community participation in prevention and care of TB. The FGDs were used to ask specific questions to explore their perceptions, beliefs, attitudes, opinions and ideas regarding the potential barriers in the participation in prevention and control of TB. In the discussions, participants were free to talk with other group members. The FGD method suited this study because it obtained different perspectives of the community participation in prevention and care of TB. It also provided insights into participant's shared understanding of their day to day lives and how others can influence individuals in a group situation ²¹. Focus group discussions were conducted at the TB treatment rooms of the health facilities in order to maintain the TB patient's privacy and comfort. For health care providers and community residents FGD was conducted in their respective offices. I also arranged the FGD schedules for TB patients in the morning after they collected their medication and for other participants at their preferred times. In order to minimize the limitations of the FGD, the facilitator provided equal chances for all FGD participants to talk. The number of FGDs was determined by data saturation. I provided refreshments for FGD participants. I obtained the written informed consent from all the participants. The PI and one research assistant undertook the probes and took notes to ensure the data quality, as indicated in the scientific research guides²². In addition to the FGDs, I used in-depth interviews. These helped us to obtain a more detailed, rich understanding of our phenomenon barrier in community participation. The in-depth interview method was used to understand the participant's experience, feelings, behavior, and attitudes and allowed deep probing to identify the underlying concepts of community participation and its barrier ²³. The TB focal person in the health center assisted the recruitment of the study participants. I conducted all the in-depth interviews at the offices or their preferred settings to maintain confidentiality and privacy. Conversations were recorded by digital recorder after obtaining consent from the participants. Finally, notes were taken by the researcher, logbooks, interview notes, recordings of the digital voice recorder, and transcribing data for computer input were carefully entered and confidentially stored ²². As per the developed in-depth interview and FGD guides, further probing questions were used to obtain more information on community participation and its barriers. The RAs assisted with some of the data transcriptions. The PI did the transcriptions, translation, and the complete analysis of the qualitative data.

Data Analysis

For the data analysis, we used the seven phases outlined in Colaizzi's descriptive phenomenological technique, which is employed in health science research. The processes are: 1) Familiarization (reading and becoming familiar with all participant data); 2) Identification of significant statements (recognizing the relevant statements related to the phenomena); 3) Formulating meanings (identifying the interpretations pertinent to the event as researchers bracket their understanding of the interpretation); 4) Clustering themes (organizing the interpretations into themes); 5) Creating an exhaustive description (providing thorough explanations of the phenomena that cover all of the developed subjects); 6) Creating the fundamental framework (making sure that the reports cover the fundamentals); 7) Assuring the validity of the underlying structure by giving the participants a second chance to affirm the primary structural statements. For data processing, we utilized Open Code software. To preserve the quality of the data, we used the COREQ Checklist, which is a compilation of reporting requirements for qualitative research.

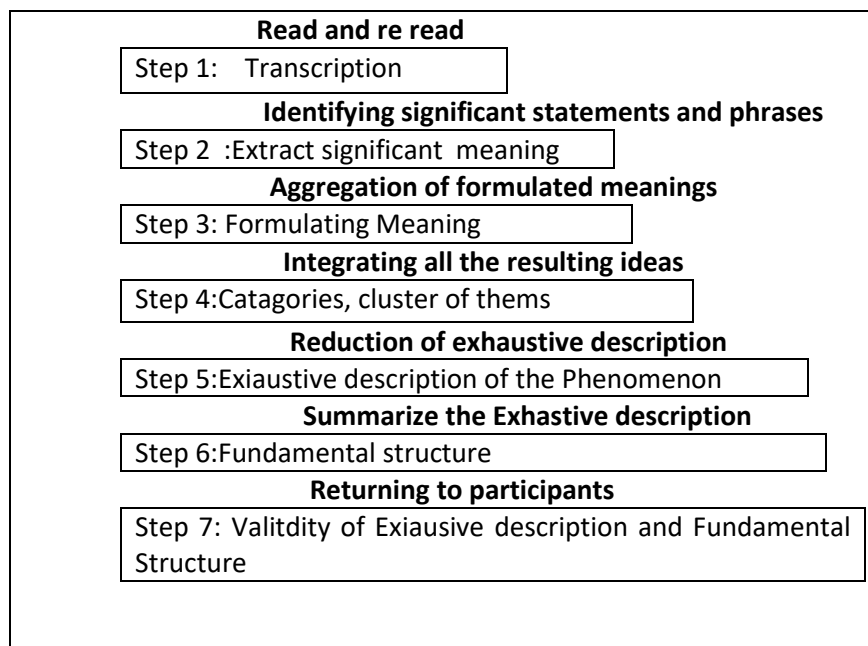


Figure 3: A Summary of Colaizzi process for phenomenological data analysis

Results

Socio demographic Characteristics of Participants. Te study involved TB patients (37.1%), health workers (20.1%), community members

including religious leader (33.9%). Regarding age, 33.3 percent were in their 40s while a few (4.2%) were in their teens and about (20.9%) were aged 50 years and more. About 75 percent were married, while a fourth (25%) had never been married. Most of the study participants (79.2%) were Protestant and Orthodox Christians and few were Catholic. All of the study participants (100%) were from Wolayta Ethnics. The highest level of education of participants ranged from no formal education to tertiary. A comparative majority (50.7%) had had elementary education while more than a fourth (29.2%) had had Middle school education and few of the participants had their tertiary education. Smaller number of participants (8.2%) had had no education

The prevention and control of TB through community participation, just like the prevention and control of other infectious diseases, has its own barriers. Therefore, the community should be aware of the existence of these barriers and should understand well which conditions create favorable ground for community participation. On the other hand, it is believed that the prevention and control of TB disease and the care of patients should be done by identifying the conditions that are considered to be barriers to community participation and dealing with these barriers appropriately to make the effort fruitful. Based on the information we obtained from the data collected from health professionals in various level and who were providing TB disease diagnosis and treatment services at the time of data collection and community members in the area where the study was conducted. Based on the information we gathered we tried to see the barrier conditions from the following perspectives.

- From patient perspective.
- From community perspective.
- From the perspective of current and existing conditions of health institutions
- From the perspective of government policies and guidelines which were being implemented currently. We have categorized by these big themes accordingly.

Patient related Barriers.

Although there were main points that the community should pay attention to prevent TB disease and provide comprehensive care for patients, the barriers for the implementation of these activities should be clearly outlined among TB patients. Because TB patients are the main sufferers of the disease, therefore, possible barriers that can impend TB patients potentially, needs to be addressed. On the other hand, as TB patients are part of the society, they live together with the

society in various socio-political and economic interactions, so the community should take advantage of these opportunities.

These conditions are as follows

- The patient's socio-political, economic and cognitive level.
- The TB status of the patient
- Personal characteristics of the patient

The patient's socio-political, economic and cognitive level.

Patients are members of the society who live together with the rest of the community in various socio-political and economic events. Tuberculosis can affect everyone who is living in the family a child, a woman or a man. These individuals who were infected with TB disease should be able to understand the role of participation of the community to prevent the disease. They could do this when the benefit of preventing the disease and socio-economic and psychological pressure that the disease had caused or could cause was well understood by TB patients. For this, the consciousness of the individual played an important role. TB patients who were not aware of the cumulative effects of the social crises and economic pressure that TB had faced in the society, were not became an part of the community participation, but instead became obstacle of the participation, and hindered the whole activities. That was, because they did not understood the benefits well.

V-1 Some patients, together with us health professionals, resist to educate the public openly about TB by telling the public that they are TB patients themselves. In this way, in some areas where people gather in large numbers, TB patients were not volunteer to teach issues like, TB is a dangerous human-to-human transmittable and it is a disease that can kill if left untreated, and can be treated and cured if diagnosed and started treatment promptly. They also resist to were not happy to teach the community that anyone with symptoms of the disease, such as a cough that, has lasted for more than 15 days, should go to a health facility and be examined immediately.

For patients hiding themselves and exeperiancing self stigmatizing and trying not to share their experiences in public significantly decrease the role of participation of the community for the prevention of TB disease and patients care.

TB disease status of patients

The TB status of TB patients can significantly affect the participation of community in the prevention and control of TB disease or comprehensive care for patients. Because TB patients who were affected by the disease seriously or were affected by drugs resistant

TB could not move on their own, most of the time they would not have a positive role in the community's participation in preventing the disease.

This was because they would not be able to participate because of the seriousness of the disease and they also would not discuss with the community to make a participation plan, evaluate the actual performance and provide better prevention of TB in their community and support for people affected by the disease. In this way, people who were affected by this category of TB disease and started their treatment in health institutions immediately, were observed being incapable to take their own part in active community participation. People with TB who were not affected by drugs resistant TB, took their treatment in the community, so their contribution in preventing the disease was significant.

Personal characteristics of patients

The impact of the personal characteristics of the patients on the participation of the community in the prevention of TB disease and support of the patients is not easy. These personal characteristics of the patients are the characteristics that can harm their health, for example, smoking cigarettes, drinking alcohol and taking various substances which could develop addiction, these make the prevention of the disease difficult. However, if TB patients are free of these characteristics, the community would gain support from TB patients as a result of TB prevention and patient support, which is a positive patient-centered scenario.

V-2 It is very good that the TB patients are free from addiction to substances. They listen well to what we teach and apply it and take their medicine properly. If they were addicted to substances, it would be very difficult and a big challenge for us to prevent TB and carry out activities of patient care. According to a health professional

Barriers of the community's to prevent and control TB disease or to provide support to patients

These were seen from the community's own perspective.

- Socio-economic and culture of the community
- Previous experience of the community

Socio-economic and culture of the society

The society's culture, language, religion or belief, education level, the political activity in the society, persuading the people to coordinating and creating influence, creates a favorable environment for how the society can prevent TB disease and provide comprehensive support to

the patients contrarily if these values of community are compromised it can seriously affect its participation. In general, a well-informed community that can interact with each other and will create a positive influence on each other making community participation successful. According to the studies, the better the social, political and economic capacity of the society, the more it can create a positive impact on the society. An economically developed society participates in building public health facilities and providing various resources to health facilities. The contribution to the overall health of patients is also very high. Apart from covering the expenses of patient's treatment, there were also situations where individuals cover the food, rent, and transportation expenses.

Previous experience of the community

Studies on previous experience of the community have shown that a community with better experience in TB prevention and comprehensive patient support can participate in better way than other none experienced community. There was a situation where experiences are transferred from one society to another society, and in order to maintain these positive social experiences as a social value, many efforts must be done. The society's past experience is not to be underestimated, as the community could use the positive experiences involved in the prevention and control of other infectious diseases and the prevention and reduction of maternal and child mortality for the prevention and control of TB and the support for TB patients. Thus, by using their experience and knowledge, they participate in preventing the spread of TB by raising awareness and providing social, economic and psychological support to patients at every level. During our research, what we learned from the data collected in the research was that different people in the community have different life experiences and they have shown us that there was an appropriate way to use this positive experience to prevent TB disease. The community member that lives in the area where our study was conducted had experience in helping needy individuals from the society. In this way, work together to build a house for the poor, harvesting crops and plowing the farm with oxen, these old social experiences and practices have been developed and transferred to the prevention and control of various infectious diseases. Where as the community with no previous experience significantly affect the participation of the community.

V-4 An old man said so. We have a very wonderful old experience. In the days when there was no transportation, we carried a sick person with a hand-made stretcher of local materials, even by a human shoulder. We know that we gathered in Debo(a group of people who gathered to work together) to cultivate the farm of a needy and weak

person. We have an old experience of repairing or refurbishing houses that have been demolished or old. Based on this past experience, we did also work to support TB patients in order to reduce the damage caused by TB disease in our society.

The existing and current conditions of health institutions as a barrier

- Accessibility of health facilities easily by the community.
- Having enough trained manpower.
- Having sufficient diagnostic and treatment resources.
- Appropriate management of TB disease diagnosis and treatment information.

Accessibility of Health Institution by the community

In order to prevent TB disease and provide comprehensive support to TB patients, identifying TB patients or people with symptoms of TB and sending them to health facilities for examination or treatment, or sending or transporting patients' sputum samples to health facilities. For this, it is important to have convenient or accessible health facilities nearby. Based on this, the area that we have studied has no problems with access to health facilities and the patients get TB related services that are available nearby, thus reducing the time and effort spent traveling long distances as well as the fatigue that may come. In this way, community has been able to work together with individuals or patients affected by the disease and health professionals in a coordinated manner to prevent and control TB and provide comprehensive support. However some participants complained that, they travel daily a long distance to collect their drugs this put the for extra economic burden.

V-5 A health extension worker working at a health post said this. I am a health extension worker working at a health post and TB patients under our health post can easily find me when they need me and I can easily find them. We have organized 15 women in the community and we call them to the health posts and teach them how the community should prevent TB disease. We also discuss with the elders and religious leaders. This entire situation is due to the fact that the health centers were built and provided services to the community nearby.

Having enough trained manpower.

There should be sufficient and trained manpower in the local health facilities to realize the community's participation in the prevention and control of TB disease or to provide comprehensive support to the patients. One part of the prevention of TB disease includes identifying people with symptoms of TB disease and sending them to health facilities for examination. It includes multi-faceted work and the

availability of sufficient and trained manpower for the practicality of this work which make these activities effective. Tuberculosis diagnosis can be done easily when there are enough and trained laboratory technicians. People who are suspected of having TB disease will also reduce the tiresome of walking from health facilities to health facilities without wasting their time and money. In general, the presence of adequate and trained manpower, combined with other factors, creates an enabling environment for the prevention and control of TB. In the health institutions where we have conducted our study, there was no shortage of trained manpower and there is a situation where it has been seen that there are enough professionals who have received training related to TB disease prevention and treatment. Even though, some of the health care providers mentioned during the group discussion or interview that they are not getting the trainings that were up-to-date.

V-6 I am a laboratory technician and I do the TB test with sputum, but I do this test based on the knowledge I got from college and I don't have any more up-to-date training. This is because we can't know if a new diagnostic technique has been changed in view of this rapidly changing current and global situation, so I believe that this kind of training is important for professionals working in all fields.

V-7 Another health extension worker said that she has not received special training but she is doing it with the training is given to us along with other health extension packages. This is questioning the quality of the work I remember that there were times when it was difficult to answer some of the questions raised by patients and the community and we found difficult to solve their problems on time. This kind of lack of on job training is a problem that most health extension workers share with

Having sufficient diagnostic and therapeutic resources.

Health institutions should be equipped with sufficient and trained manpower required for the work, as well as the resources needed for examination and treatment of TB. Therefore, in order to prevent and control TB disease and to provide comprehensive support to patients, health facilities have a great role to play in making available the materials that are used for the diagnosis and treatment of TB disease. Because if the health facilities are complete with these inputs, it means that there are conditions to prevent and control the disease, but if not, it means that the participation of the society will remain only effort. In this regard, according to the information from the health institutions, where we carried out our research, most of the health institutions have the necessary resources and equipment, and some of the health

institutions raised as deficiencies, which should be fulfilled, but very important issues were raised during group discussions and interviews. It has been said that there was a shortage of TB medicine called ionized, which is given to children against TB disease, and the lack of laboratory reagents in some health centers and some nonfunctional microscopes created problem in sputum examination in one of the health centers. If health institutions were fully equipped with the necessary equipment and resources for TB diagnosis and treatment, it would play a positive role in the prevention and control of TB disease and make society's participation fruitful. In view of this, the health facilities in the area where we conducted the study were well organized and provide services in a positive way except one health center with problem the microscope as mentioned earlier.

V-17 According to a TB Focal Person, our health center is well equipped with materials for TB diagnosis and treatment. Together with the pharmacist and the laboratory expert, we will submit an inquiry to the concerned body before the resources at hand run out. We will ensure that resources reach our health center as early as possible. Even if we faced a sudden shortage, we would provide needed services to our patients as soon as possible, even from other health centers, so that our patients do not suffer.

Management of TB disease diagnosis and treatment information in health institutions

Health institutions' TB disease diagnosis and treatment information management is not easy to contribute to TB disease prevention and control. Properly recording information is one of the most important tasks for the disease prevention and control. The patient's socio-economic information in archives and the address, when the treatment started, the patient's contact person and so on in terms of the prevention of TB disease and the overall support to the patients, the role of these is very high, so it should not be ignored. If the information management of TB patients is given good attention and done, people who started and stopped their treatment, could be easily traced. If there were family members who were suspected of having the disease, they could be easily identified and would be taken to health facilities for further investigation. According to the information collected from the health institutions where we have done our research, the management of patients' diagnostic and medical information was at a good level, and it was raised during group discussions and individual interviews that it had a great role in the prevention and control of TB disease in the society and in increasing the participation and effectiveness of patients support.

From the current and implemented government policies and guidelines

A country has its own national TB prevention and control program, and community participation is a supplementary activity based on the national TB prevention and control program. Therefore, in order to prevent and control TB disease at the national level, the society plays its part in accordance with the guidelines and policies of the WHO, as well as the guidelines prepared by partner organizations working with the country in the health sector, in a way that it meets the set milestones and indicators. In this regard, the government's policy and guidelines, as well as political commitment, play an important role in active participation of the community in the prevention and control of TB disease and in providing comprehensive support to patients. For this type of public participation, the government policy and political commitment either create enabling conditions or remain barrier, thereby public participation can achieve the desired results or not. In view of the current and implemented government policies and guidelines

- Training volunteers from the community
- Supplying logistics for volunteers
- Organization of Civic associations

Training volunteers from the community

Studies indicate that community participation in the prevention and control of various communicable and non-communicable diseases is efficient and effective in a community with trained volunteers. Studies showed that the positive results of those who were recruited from the community and have been given training from the government to serve the community as volunteers were very high. That was one of the most important factors in the prevention and control of TB disease. Because being assisted by training makes them well aware of TB, they know the culture, language and psychology of the community while returning back to the community. It would not be difficult for them to enter the society and teach and provide services to their society. In the areas where we have done our study, there were volunteers and we could understand from the collected information that they could work effectively together with the health extension workers.

Provide logistics for volunteers

It is known that there are some logistics that volunteers need in addition to training, and the logistics that are met for these volunteers will make the volunteers do their work happily, but it is appropriate to check whether the government's procedure for these volunteers has

a logistics guide in place was or not. These are such as transportation, working clothes, bonus in cash or in kind, and the volunteers who receive these logistical support from the government are not only contributing to the prevention and control of TB disease, but also contributing to the active participation of the society. Studies show that if volunteers were supported by various logistics from the government, they would work together with the community to prevent TB disease. Although there were some volunteers in the area we have done our study, it was found that they have not received any logistical support from the government. Studies also showed that people without logistic support was reluctant to leave their own jobs and do volunteer work, in a manner that, it reduced the effectiveness of community participation.

Organization of civic society associations

This will create another opportunity for the government to organize, train and educate social groups like youth, students and women's associations to prevent and control TB. Because these people who come from the society know the language of the society, the life style and culture, the society as result of all these their contribution in terms of helping the community would be very important, so it is good if the government takes the initiation of organizing, training and acknowledging these types of civic society association. This idea was mentioned during the group discussion, and in the area where our studies were carried out, we were able to realize that there no civic society associations that have received these kind of training and been recognized by the government.

Discussion

Our research indicates that there are various, interconnected barriers to the community participation in prevention and care of TB in the study area. Major obstacles include resource constraint and restricted access to TB diagnostic services.

Numerous barriers of community participation in prevention and care of TB were recognized by the study's participants and were organized into four main themes and twelve subthemes: (1) From patient perspective, such as the patient's socio-political, economic and cognitive level, willingness of the patient to be part of community participation, the TB status of the patient and personal characteristics of the patient (2) From the perspective of health institutions, health facilities easily accessible, have enough trained manpower, have sufficient diagnostic and treatment resources, (3) From community perspective:- socio-economic and culture of the society, willingness of society, previous experience of the community (4) From the perspective of government policies and guidelines which were being

implemented currently, training volunteers from the community, willing to provide logistics for volunteers, organization of SVC associations

Our findings imply that the resources required for early diagnosis of TB were insufficient. The results are in line with earlier research conducted in Ethiopia, which found a lack of trained healthcare professionals and laboratory supplies for TB control initiatives⁵³⁻⁵⁵. Lack of resources or insufficient resources could make it far more difficult to provide expected TB diagnostic services, which would make the effort of community participation difficult and case detection also would be hindered and the spread of the disease will be continued. In addition, the performance and effectiveness of the TB control program may be impacted by the lack of these resources. A properly trained personnel with the appropriate medications and medical equipment is necessary for the delivery of good and effective services. For a desired health outcome or successful treatment, the government should offer the right incentives and logistics, such as an allowance to volunteers is required.

In the study that was done in Thai-Myanmar border, a lack of resources, poor accessibility, and a capacity for TB diagnosis, as well as a weak community participation,, were reported. In similar study that was conducted in Northern Malawi, a lack of resources, poor accessibility and a capacity for TB diagnosis, as result of weak community participation, were reported. Additionally, similar study found in Northwest Ethiopia and reported a lack of resources and access to TB testing resources at outlying health institutions⁵⁵. The WHO's framework for health systems identifies six pillars that must be strengthened in order to enhance health outcomes. These include effective leadership and governance, effective health staff performance, functioning health information systems, robust health funding systems, and access to critical medications, products, and technologies.

The provision of services, the presence of well trained health workers and other necessary resources, the mobilization and distribution of budgets, and the maintenance of health system leadership and good governance are some fundamental duties that all health systems should complete. The focuses of our research were limited access to TB diagnostic service delivery, a lack of certain types and numbers of health professionals, a lack of funding and difficulty utilizing the health care financing system, and a lack of diagnostic tools and supplies, including reagents. To improve health outcomes, all these important elements should be in place⁵⁶. The present study has the drawback of only including the opinions of a small number of patients, health care

providers who are working in TB clinic, TB focal persons and few community members. In contrast to those who had TB symptoms in the community but had not yet sought medical attention, we only interviewed patients who had completed their treatment and who were undergoing their treatment. As a result, we missed some crucial data about barriers to what community encounter the participation in prevention and control of TB.

Conclusion

In conclusion, there are a number of patient-related, healthcare system-related, community related and government related barriers that hinder the community participation, which is one of the way to success in prevention and control of TB. Enhancing community health literacy, scaling up access, and improving the set up of TB diagnostic services, conducting routine supportive supervision and timely feedback, setting up routine on job training and motivating volunteers and working with local political leaders to address logistic issues for volunteers who are working in prevention and care of TB and infrastructure challenges are essential interventions to improve the situation.

Data Sharing Statement

All data used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethical Considerations

An official letter of no objection (Ref.No-PIPH/FOM/PhD/2021-22/63) was written by Parul University and submitted to Wolayta Sodo University. Ethical clearance and approval was obtained from Ethical Review Committee (ERC), Wolayta Sodo University, College of Health Science and Medicine with (Project. No CHSM/ERC/08/14) which was duly considered during its meeting held on April 13/2022. The zonal offices in turn wrote official letters to woreda (districts) where the health facilities are there and the woreda health offices wrote a letter to respective health facilities. A written consent was obtained from the participants. Moreover, all the study participants were informed about the purpose and confidentiality of the information along with their right to refuse.

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Author Contributions

Both authors contributed to data analysis, drafting or revising the article, have agreed on the journal to which the article will be submitted, gave final approval of the version to be published, and agree to be accountable for all aspects of the work.

Dan Biomedical Medical, Medical Laboratory Equipments, Chemicals and Reagents distributor. The funder had no role in the design, data collection, analysis, and interpretation of this study.

Disclosure

The authors report no conflicts of interest in this work

Abbreviations: AUC, area under the curve; LS, least squares; NE, not estimable

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