

## Social and Behavior Change Communication (SBCC) Approach in Tuberculosis Management by Terjang Foundation

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**Abstract.** The treatment of TB faces many obstacles, both from the patient's perspective and their environment. Therefore, the presence of TB survivors in the treatment process is expected to assist TB survivors during the recovery and post-recovery stages. Many approaches can be made to deal with TB, including the social and behavior change communication (SBCC) approach. This study aims to analyze the use of SBCC by TB survivors from the Terjang Foundation in treating TB in Bandung. This study adopts a qualitative research method with a case study approach. Data collection techniques include in-depth interviews, field observations, and literature reviews. The study results show that SBCC has been implemented as follows: 1) Advocacy is carried out through meetings to seek support from the government and other stakeholders; 2) Social mobilization is carried out by involving stakeholders, including the Health Office, community elements, and TB survivors. Social mobilization is conducted through TB Day activities, seminars, and patient visits; 3) Education is carried out by explaining TB treatment to survivors and accompanying TB patients during drug administration in hospitals.

**Keywords:** Tuberculosis; Terjang Foundation; SBCC, TB Survival

Article Info:

Received 02 Jan 2023, Revised 12 May 2023, Accepted 27 May 2023, Available online 15 Jun 2023

### INTRODUCTION

The city of Bandung ranks second in the highest number of TB infection cases in West Java Province out of a total of 845,000 patients in the country. According to data from the Bandung Health Department, during the pandemic, 11 people died every hour due to TB

infection in the city (Bandung Health Department 2021). In 2020, there were 8,504 cases of TB found in Bandung. The detection success rate in Bandung increased in 2020 compared to previous years. The comparison between success rate (SR) and Cure Rate (CR) can be seen in Graph 1.

Graph 1. Comparison of Success Rate (SR) and Cure Rate (CR) of Tuberculosis (TB) in Bandung City from 2015-2020.



Source: Bandung City Health Office, 2021.

The high number of TB cases in Bandung City is caused by various factors, including the fact that some people still need to adopt healthy lifestyle behaviors as recommended by the government. Additionally, a negative stigma surrounding TB makes some infected individuals reluctant to seek treatment. As a result, TB infections are often left untreated by those infected with TB (Arulchelvan & Elangovan, 2017). Another factor is related to the population density in Bandung City. Bandung City is the second-highest city in West Java regarding the number of TB cases. The prevention and control of pulmonary TB are essential due to the proximity of neighborhoods within Bandung City, which can influence each other. Factors that potentially contribute to an individual's onset of pulmonary TB include clean and healthy behavior, healthy housing, population density, and availability of safe drinking water (Zaina et al., 2021).

TB is an infectious disease caused by *Mycobacterium tuberculosis*, which attacks the lungs and can also affect other organs such as bones, lymph nodes, and the brain (Sandha & Sari, 2017); (Pangestika et al., 2019). In addition to media issues, TB is also vulnerable to the stigma given to its survivors. This stigma hurts delays in treatment, prevention, and policies related to the disease. Symptoms caused by TB infection include coughing for about two weeks. Cough is usually accompanied by other symptoms such as coughing up phlegm, shortness of breath, weakness, loss of appetite, weight loss, and night sweats without any physical activity, and some survivors even have a fever for up to one month (Herawati, 2020); (Khawar et al.).

According to WHO data in 2017, it was reported that the global tuberculosis report in 2018 showed that most tuberculosis cases were in the Southeast

Asia region at 44%, Africa at 24%, and the West Pacific at 18%. In 2020, the WHO reported that Indonesia has the second-highest number of tuberculosis survivors after India. Some solutions and programs implemented include counseling and making approaches, especially from families, health workers, and the community around TB survivors. In addition, education and counseling are provided to the community environment, educational environment, and related health services.

TB is one of the global health priorities that can threaten the well-being of almost a quarter of the world's population. This causes 1.4 million deaths each year. Various efforts have been made by the government and health institutions to reduce the death rate due to TB infection and to cure patients who have been infected with TB. If current efforts have not succeeded, reducing the number of deaths from TB infection in 2035 cannot be achieved without expanding early detection and its implementation to the broader community. An example that has been quite successful is programs that have been carried out in human immunodeficiency regarding HIV (Brown et al., 2017).

Previous researchers have studied the obstacles in handling tuberculosis (TB). The research results suggest that the increasing cases of TB can be triggered by, among other things, insufficient knowledge and education levels, which can lead to anxiety about the negative stigma received by TB patients. This is consistent with the statement that the higher the level of education, the easier it is for someone to seek, obtain, and process information to prevent the transmission of tuberculosis so that the information obtained can also be spread wisely so that more people know and care about it, slowly reducing the negative stigmas towards TB patients (Gloria Demanora et

al., 2022).

The following study states that TB patients face a negative stigma from their environment. The stigma can come from family, society, and the patients themselves. Stigma is a condition where TB patients receive negative labeling and often experience discrimination due to the infection they suffer from. Stigmas circulating in society usually start with issues that are allowed to develop without clarification or justification of the information being disseminated. Misunderstandings that arise both for TB patients and the community create fear in many people. This perception of misunderstanding becomes a stigma that tends to be hostile toward TB patients (Suryandari, 2022). Stigma is often attached to health issues, including tuberculosis. Reasons why stigma can emerge with TB include transmission, lack of accurate knowledge about its causes, treatment, or association with marginalized groups such as poverty, minority races, sex workers, prison inmates, and people infected with HIV/AIDS (Hidayati, 2015).

The complexity of the TB issue requires collaborative efforts among stakeholders in a region. Health communication offers a solution: communicable diseases can be addressed through the principles of behavior communication change (McKee et al., 2014); (Brown et al., 2017). This is in line with Schiavo's (2013) opinion that health communication operates in a highly complex environment, playing a role in supporting healthy lifestyles, urging governments to make policies that can respond to needs, and encouraging healthcare workers to provide the best possible health services. Furthermore, Schiavo stated that the main issue in health communication is influencing individuals and communities (Solihin et al., 2022).

Referring to previous research and the concept of health communication, this study aims to analyze how the Terjang Foundation implements SBCC health communication in managing TB in Bandung City. This research uses a qualitative approach with a case study method on the Terjang Foundation. Hopefully, this research provides benefits as an academic reference and serves as a basis for policymakers.

## **METHODS**

The research method in this study is qualitative, using a case study approach. This study is the subject, namely TB management activities by survivors from the Terjang Foundation. The data collection technique was carried out using unstructured interviews, in which the researcher explored question ideas from the informants' answers; non-participant observation, in which the researcher visited the location where TB patients were assisted; and studying the literature. The data obtained in qualitative research is descriptive data such as speech, writing, and behavior of individuals observed in the research process (Creswell and Pot, h 2018).

In addition, data can also be generated through reviewing literature or literature reviews from several journals, articles, and previous research. The literature review is a systematic, explicit, and reproducible process for identifying, evaluating, and interpreting existing documents (Tashakkori & Teddlie, 2010). The research is from October to December 2022, located at the Terjang Foundation office, the Kopo Permai Bandung residence, and several locations for TB patient assistance by Terjang survivors.

## **RESULTS AND DISCUSSION**

The research results were obtained through interviews, namely TB survivors

at the Terjang Foundation, interviews with several TB survivors, and non-participant observation. The analysis focuses on how TB survivors from the Terjang Foundation communicate and assist patients based on the role of SBCC health communication. Before that, we will discuss the SBCC strategy, the role of the task force in handling TB, and the implementation of SBCC by the Terjang Foundation.

### The Role of Survivors in Handling TB in Bandung City

The problem of TB continues to develop due to various factors. Apart from the long-standing stigma factor, other factors also arise from the patients and the lack of support from their families and the surrounding environment, as seen in Figure 1. The information that almost everyone can quickly obtain through internet connections is not yet fully utilized by some people, government institutions, or health organizations to disseminate information about health issues, especially regarding TB infection.

In this regard, the role of TB survivors is needed to assist in managing TB, including in Bandung City, as carried out by the Terjang Foundation. Survivors have previously experienced and gone through the process of treating TB infection and all things related to TB. These experiences gave birth to a sense of

empathy for those struggling to recover from TB infection.

This experience is considered one of the vital motivating factors for survivors to continue to help and accompany TB survivors. Apart from having to assist, the survivors from the Terjang Foundation also participate in several other activities, such as conducting house-to-house outreach to holding events, one of which is every TB Day Care by inviting people into the local environment. The stigma received by TB survivors can be one of the obstacles in the recovery process. Shame, fear, low self-esteem, and even depression are often experienced by TB survivors (Sapar et al., 2020).

TB survivors who have received assistance during the recovery process tend to have good adherence to treatment compared to survivors who do not receive assistance. Like the research that has been conducted by (Basdiwo et al., 2021), the results of the research show that, based on the age of the survivors, there are many pulmonary TB cases, namely ages 0-5 years, namely as many as 34 people (43%) and male sex, namely as many as 46 people (58%), the number of patients who adhered to treatment was 59 people (73.75%). Those who recovered were 77 people (96.25%). Based on the frequency distribution, it was found that the highest number of the male sex was 57.5% (46 people) and aged 2 - 10 years,

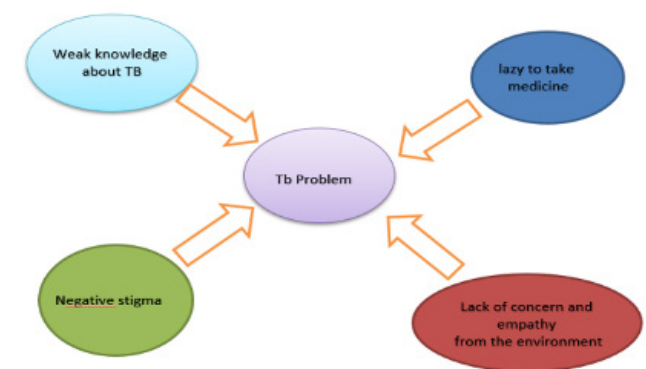


Figure 1. TB treatment problems  
Source: resercher, 2022

namely 40 children (50%). The results of the analysis using the chi-square test also showed that there was a relationship between adherence to treatment and the success of treating tuberculosis patients. The more obedient TB survivors are in the recovery process, the higher the cure rate for TB survivors.

Therefore, a solution is needed to overcome the crisis regarding communication, especially health communication. According to Littlejohn, health communication is an essential element for prevention and treatment, in which symbolic messages are exchanged for personal, organizational, and community health. Personal health is related to communication with family, friends, and clinical providers such as doctors and nurses. The organizational aspect includes the relationship that care providers have with one another. Communication skills competence is the ability to communicate and understand opinions through interaction. This study refers to the ability of survivors to interact effectively with other people, either with TB survivors or with the surrounding community, by recognizing and utilizing appropriate means of communication in relationships. With others (Shin and You, 2021).

### **SBCC Implementation by Terjang Foundation**

The Terjang Foundation adopts a social and behavior change communication (SBCC) approach, employing three main strategies: advocacy, social mobilization, and education. The SBCC approach is considered the most effective method for bringing about behavioral changes within communities. Through advocacy, the foundation influences policies and decision-making processes, raising awareness about the importance of addressing TB disease. Social mobilization efforts aim to engage and

empower individuals and communities, encouraging them to act and actively participate in TB prevention and treatment programs. Additionally, education is crucial in providing accurate information and promoting understanding about TB, its symptoms, transmission, and treatment options. By implementing these SBCC strategies, the Terjang Foundation strives to create sustainable behavioural changes that contribute to the overall control and eradication of TB.

#### **1. Advocacy implementation**

Terjang Foundation, as a TB survivor organization, engages in advocacy activities in various forms. Based on interviews with informants, it was mentioned that they carry out activities involving stakeholders in Bandung City, such as the Bandung City Health Office, community leaders, academics, and companies operating in the area. Bringing together these stakeholders is an effort to observe and elicit political commitment in TB management in Bandung City.

Efforts to gather political commitment can also be carried out during TB Daya activities, which take place every March. During these events, stakeholders always attend to provide support and encourage behavioral change in the context of health. TB survivors lobby the government based on field findings, such as healthcare facilities, human resources, and other issues, as shown in Figure 2.

During the hybrid TB Days event in 2021, the Mayor of Bandung expressed his support for TB management in the city. The mayor also appreciated the involvement of non-governmental parties in TB management. According to the Mayor, TB is a collective problem and must be handled together.

At the TB Days 2021 activity on a hybrid basis, the Mayor of Bandung stated support for handling TB in Bandung City. The mayor also



Figure 2. Implementation of advocacy by TB survivors of Tejang  
Source: Researcher, 2022

appreciated the involvement of parties outside the government in handling TB. According to the mayor, the TB problem is shared. Therefore, it must be handled collaboratively.

## 2. Social mobilization implementation

The social mobilization activities carried out by the Terjang Foundation include engaging and involving the local community to participate in TB

care activities, as shown in Figure 3. TB survivors at Terjang Foundation carry out social mobilization activities in various forms, such as holding health exhibitions (as shown in Figure 3) during TB Care events, health seminars, training for patient families, patient pick-up services, visiting patient homes, visiting markets, schools, Islamic boarding schools, and prisons, as in Figure 4.



Figure 3. Terjang Foundation engages in social mobilization activities during TB Day events.

Source: Terjang foundation, 2022

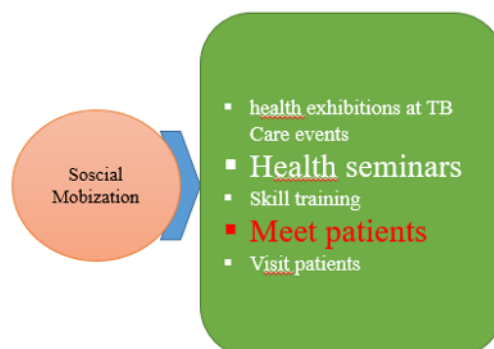


Figure 4. Social mobilization activities carried out by survivors at exhibition activities.  
Source: Researcher, 2022

During the exhibition, TB survivors from the Terjang Foundation usually demonstrate how to treat TB in hospitals, clinics, and patient's homes. According to the Head of Terjang, Dewi Wulan, this demonstration activity is vital so that the community understands better how to help TB patients. This is also related to efforts to prevent TB transmission to people around where TB survivors live, work, or study.

As for supporting this social mobilizations' success, the Terjang Foundation survivors partnered with community leaders, religious leaders, and officials in their respective environments. According to Dewi Wulan, conveying the message would be easier if community leaders were present because the public already knew the leaders. The next effort is to socialize social mobilization activities through its various media channels. Currently, the Terjang Foundation is conducting socialization through posters, billboards, booklets, and social media. According to Dewi Wulan, her party is planning a collaboration with the mainstream media to spread more information about TB handling in Bandung City.

## 2. Communication/education implementation

The education carried out by the Terjang Foundation is to provide information and understanding of TB problems. This form of education can be done interpersonally, in groups, or the masses. Patient counseling educational

activities are usually conducted interpersonally in hospitals and patient homes. There are even patients who ask for counseling via telephone and video calls. Group education is carried out through seminars, and mass education is carried out through social media channels and print media such as billboards, booklets, and TB treatment guidebooks distributed free of charge to those in need, as shown in figure 5 and 6.

According to Dewi Wulan, the education that survivors often do is in the process of accompanying patients. The medication assistance program (PMO), a government policy, will not work if there are no cadres like them. The education provided by the survivors of the Terjang Foundation indeed relies on the experience of those who have experienced the treatment process. According to Dewi Wulan, patients will be more comfortable getting health information from survivors because people with the same experience convey it.

One of the obstacles in handling TB is the weak understanding of the community or patients about TB. This lack of knowledge also creates a negative stigma from both the patient and the community towards the patient. Negative stigma discriminates against patients; for example, some are kicked out of the workplace with no guarantee of survival, ostracized from the environment, and some even get divorced because their partner has contracted TB. For this reason, TB survivors at the Terjang

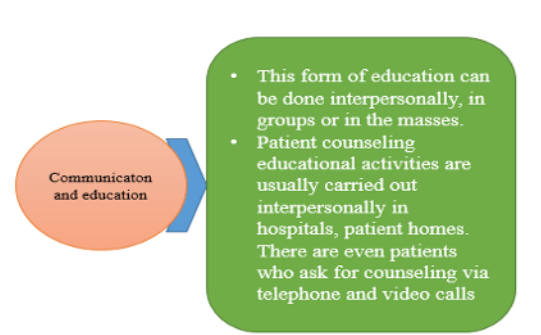


Figure 5. Implementation of education by TB survivors of Terjang Foundation



Figure 6. Educations activities carried out by survivors.  
Source: Terjang foundation, 2022.

Foundation educate everyone, not just TB patients. TB is a common problem, and a solution must be found together. Only in this way can TB treatment in Bandung be successful.

#### **SBCC's strategy in dealing with TB**

Efforts to handle infectious diseases such as TB by implementing the SBCC health communication principles (McKee et al., 2014). The basic concept of SBCC communication is that perception can influence everyone's behavior, including health behavior, such as TB survivors and TB survivors. Behavioral theory in health communication seeks to describe, explain, and ultimately change human behavior in the health sector (Brewer et al., 2004).

The goal of the SBCC strategy is to change behavior. Any behavior change will give birth to new perceptions, which can change human behavior (Gaube et al., 2019). TB patients who were initially hesitant to seek treatment due to the perception of lengthy and time-consuming treatment processes experienced a shift in their mindset and behavior after receiving information from TB survivors. This information gradually transformed their perceptions, leading to a change in their behavior. These changes in behavior can be seen in the desire and enthusiasm of TB survivors to seek treatment and confidence in going through the treatment

process.

An innovative approach is needed through social and behavioral change communication to address the increasingly complex threat of global TB. One possibility for a practical community-based approach in this communication process is through a care group such as that carried out by the Terjang Foundation. SBCC communication in this study refers to using communication strategies to demonstrate positive health outcomes, which are based on the strategies in SBCC theory.

The primary focus of the change designed by the SBCC theory centers on changing the behavior of individuals, groups, and communities to maintain practices related to improving health and nutrition. This communication refers to behavioral change to address the behavior and environment where the behavioral change occurs (McKee et al., 2014). This theory assumes that public health is closely related to social, political, environmental, and behavioral factors where people live. Therefore, behavior change communication emphasizes an ecological perspective which is the basis for creating multilevel communication strategies, such as customized messages at the individual level, targeted messages at the group level, social marketing at the community level, media advocacy at the policy level, and media campaigns at



the population level. In addition, public health communication strategies are often combined with other intervention efforts, such as community organizing (Bernhardt, 2013).

Many behavior changes are temporary and do not last long. This phenomenon should be avoided in behavior change activities. The framework for the BCC communication program emphasizes the importance of practicing sustainable behavior change by identifying behaviors early on. It also involves three supporting factors: effective communication, a supportive environment, and user-friendly and accessible services and commodities (Maulana, 2021). The ecological approach requires BCC to work through three main strategies: advocacy for policy change and resource mobilization; social mobilization (including community mobilization) for broader coalition engagement and capacity strengthening of partners and allies from the international level to the community; and education or communication of the change itself, as can be seen in Figure 7. Education uses interpersonal, group, mass media, and new information technologies for specific behavior and social norm change. Defining these key strategies is very helpful for a complete understanding of behavior change. Often, projects

only focus on behavior change, trying to change individual behavior without addressing, for example, the demand for more accessible and friendly service delivery through advocacy.

- **Advocacy**

Advocacy is defined as an approach (approaches) to other people who are considered to influence a program's success. Departing from this understanding, the targets or targets of advocacy are the leaders of an organization or work institution both in the government and private sectors as well as community organizations. Advocacy is personal, interpersonal, and mass communication aimed at policymakers at all levels and social orders (Hubinette et al., 2017); (Solihin et al., 2023). The main goal of advocacy is to encourage publications that support health. So, it can be concluded that advocacy is a combination of individual and social approaches or activities to obtain political commitment, policy support, social acceptance, and the existence of a system that supports a program or activity. Departing from the limitations of advocacy described above, the advocacy objectives are political commitment, policy support, social acceptance, and system support.

1) Political Commitment (Political Commitment) can be seen in



Figure 7. Three Key Strategies of SBCC  
Source: adapted from McKee (2014)

the extent of the government's understanding, both the executive and the legislature, of public health problems. Likewise, how far they allocate development budgets, both national and local, for development in the health sector, and this also depends on the perspective and concern for health in the context of development.

2) Policy Support is concrete support provided by institutional leaders at all levels and sectors related to health development. Political support will be meaningless without concrete embodiment of policies. After political commitment, it needs to be followed up with advocacy again to issue concrete policies. Policy support can be in the form of laws, government or regional regulations, decrees from the heads of institutions, both government and private, and so on.

3) Community Support (Social Acceptance) is the activity of accepting a program by the community. If a health program has received commitment and policy support, the next step is to socialize the program to gain community support.

4) System Support (System Support) is a support system, mechanism, or clear work procedures for a health program so that it runs well.

- Social Mobilization

(Schiavo et al. 2020) Explains the concepts of community and social mobilization as important in health communication and the interrelationships of these two concepts. In the case of community mobilization, the importance of community dialogue, participation, and self-reliance is emphasized in the theoretical definitions and implementation practices. Community mobilization is

a bottom-up and participatory process, using several communication channels to involve community leaders and the wider comradery in dealing with health problems, being part of essential steps for behavioral and social change or desired behavioral practices. The impact of community mobilization is more significant when different communities interact with each other and create social forces for change. This concept is incorporated into the idea of social mobilization. Social mobilization is bringing or bringing together communities as multi-sectoral partners to raise awareness, needs, and progress for initiatives, process goals, and outcomes.

- Communication/Education

Educational activities include disseminating accurate information and dispelling myths about stunting or educating and encouraging people about stunting and their family members to be more actively involved in treatment and to support a community approach to facilitating treatment completion. Organizing social mobilization and community participation activities can increase awareness of TB prevention, promote health-seeking behavior, inspire dialogue, and increase community awareness and action for TB management.

In line with that, the Terjang Foundation conducts tuberculosis health education for various groups. These educational activities aim to increase awareness among different segments of society about tuberculosis, its symptoms, transmission, and available treatment options. Through informative sessions, workshops, and awareness campaigns, the foundation aims to equip individuals from diverse backgrounds with the knowledge and understanding necessary to recognize tuberculosis symptoms, seek timely medical help, and support others within their communities. By reaching

out to different groups and engaging them in health education initiatives, the Terjang Foundation strives to foster an informed and proactive society in combating tuberculosis.

## CONCLUSION

Based on the description above, it can be concluded that the TB survivors who joined the Terjang Foundation have implemented the social and behavioral and change communication strategy in dealing with TB in Bandung City. Implementation of advocacy by inviting all stakeholders in Bandung City to collaborate in handling TB; implementation of social mobilization in TB Days activities every year; health fairs, skills training. Social mobilization also invites community leaders, religious leaders, and regional officials who are well known to the community, implementing education through providing counseling to patients, seminars, and outreach through media channels.

The advantage of this research is that it captures the implementation of SBCC from the view of parties outside the government, namely the Terjang Foundation. Information about the SBCC is not always consistent with theoretical concepts but is more natural according to their capacity. In contrast, the weakness of this research lies in the presentation of data in the form of quantification into more accurate numbers. Therefore, in the future, it can be studied with a quantitative approach.

## REFERENCES

- AlMossawi HJ, Longacre C, Pillay Y KN. (2019). A Social and Behavior Change Communication Framework for Addressing Delays to Appropriate TB Care and Treatment A Social and Behavior Change Communication Framework for Addressing Delays to Appropriate TB Care and Treatment. In: *International Journal of Lung Health Diseases*. Volume 3. hlm 1–7.
- Arulchelvan S, Elangovan R. 2017. Effective communication approaches in tuberculosis control: Health workers' perceptions and experiences. *Indian Journal of Tuberculosis*. 64(4): 318–322. doi: 10.1016/j.ijtb.2016.11.017.
- Basdiwo CR, Purbaningsih W, Fitriyana S. 2021. Hubungan Antara Kepatuhan Berobat dengan Keberhasilan Pengobatan Pasien Tuberkulosis Paru di RSUD Al – Ihsan Tahun 2021.
- Bernhardt J. 2013. Communication at the Core of Effective Public Health. *American Journal Public Health Association*. 94(12): 2051–2053. doi: 10.4135/9781412958479.n179.
- Brewer NT, Weinstein ND, Cuite CL, Herrington JE. 2004. Risk Perceptions and Their Relation to Risk Behavior. *Annal of Behavior Medicine*. 27(2): 125–130. doi: 10.1207/s15324796abm2702\_7.
- Brown A, Ernst P, Cambule A, Morrow M, Dortzbach D, Golub JE, Perry HB. 2017. Applying the Care Group model to tuberculosis control: Findings from a community-based project in Mozambique. *International Journal of Lung Diseases*. 21(10): 1086–1093. doi: 10.5588/ijtld.17.0179.
- Creswell J, Poth CN. 2018. *Qualitative inquiry & research design; Choosing among five approach*.
- Derang I, Sirait I, Simorangkir L, Situmorang T. 2022. PERAN KELUARGA DALAM MERAWAT ANGGOTA KELUARGA DENGAN TB PARU. 9(1): 63–71. doi: 10.14341/cbai-2022-65.
- Dinas Kesehatan Kota Bandung. 2021. Dinkes Kota Bandung Raih Peringkat Ke-2 Penanganan TB Terbaik pada TB Summit 2021. *DinkesBandungGoId*. 20: 2021.
- Eileen K, Jennifer S, Meghan K, Sibhatu B. 2018. Impact of Social and Behavior Change Communication in Nutrition Sensitive Interventions on Selected Indicators of Nutritional Status. *J Hum Nutr*. 2(1). doi: 10.36959/487/279.
- Foster I, Galloway M, Human W, Anthony M, Myburgh H, Vanqa N, Wademan

- DT, Makanda G, Tisile P, Schoeman I, et al. 2022. Analysing interventions designed to reduce tuberculosis-related stigma: A scoping review. *PLOS Global Public Health*. 2(10): e0000989. doi: 10.1371/journal.pgph.0000989.
- Gaube S, Lerner E, Fischer P. 2019. The Concept of Risk Perception in Health-Related Behavior Theory and Behavior Change.
- Gloria Demanora N, Teresia R, Carolina Y, Pangkey BC, Aiba S. 2022. Relationship Anxiety With Stigma To Tuberculosis Patients in Student At One Private University in Western Indonesia. 14 September: 759–764. <http://journal.stikeskendal.ac.id/index.php/Keperawatan>.
- Herawati C dkk. 2020. Peran Dukungan Keluarga, Petugas Kesehatan dan Perceived Stigma dalam Meningkatkan. *Jurnal Kesehatan Masyarakat Indonesia* 15(1): 19–23. <https://jurnal.unimus.ac.id/index.php/jkmi>.
- Hidayati E. 2015. Pengetahuan Dan Stigma Masyarakat Terhadap Tbc Setelah Diberikan Pendidikan Kesehatan Pencegahan Dan Penularan. *Jurnal Keperawatan Soedirman*. 10(2): 76–82.
- Hubinette M, Dobson S, Scott I, Sherbino J. 2017. Health advocacy. *Media Teach*. 39(2): 128–135. doi: 10.1080/0142159X.2017.1245853.
- Khawar W, Govt B, Degree College K, Doda J, India K. QUANTIFYING THE RISK OF PREMATURE DEATH IN TUBERCULOSIS SURVIVORS\* Human Genetics View project BIODIVERSITY OF DODA View project.
- Maulana AE. 2021. Improving Community Education on Fish Consumption Using Social Behavior Change Communication (SBCC). *Global Business Financial Rev*. 26(4): 14–29. doi: 10.17549/gbfr.2021.26.4.14.
- McKee N, Becker-Benton A, Bockh E. 2014. Social and Behavior Change Communication. Karin Gwinn Wilkins TT, Oregon and R, editor. 350 Main Street, Malden, MA 02148–5020, USA 9600 Garsington Road, Oxford, OX4 2DQ, UK: John Wiley & Sons, Inc.
- Ngwu UI. 2017. The practice of open defecation in rural communities in Nigeria: A call for social and behaviour change communication intervention. *International Journal of Commun Res*. 7(3): 201–206.
- Pangestika R, Fadli RK, Alnur RD. 2019. Edukasi Pencegahan Penularan Penyakit Tb melalui Kontak Serumah. *J SOLMA*. 8(2): 229. doi: 10.29405/solma.v8i2.3258.
- Pratama DH, Bachtiar FR. 2022. Peran Global Fund dalam Konteks Keamanan Manusia di Sulawesi Selatan: Studi Kasus Penyakit Tuberculosis. Hasanuddin *Jurnal International Affairs*. 2(2). <https://journal.unhas.ac.id/index.php/hujia/article/view/22638>.
- Sandha LMH, Sari KAK. 2017. Tingkat Pengetahuan dan Kategori Persepsi Masyarakat Terhadap Penyakit Tuberculosis (TB) di Desa Kesticang Islam Kecamatan Bebandem Karangasem-Bali. *E-Jurnal Medika Udayana*. 6(12): 131–139. <https://ojs.unud.ac.id/index.php/eum/article/download/35715/21542>.
- Sapar, Salju, Risal M, Samsinar, SM. Z, Akbar M. 2020. The influence of TB care community cadre's roles on the treatment adherence of tuberculosis (TB) survivors. *Enferm Clinic*. 30: 244–248. doi: 10.1016/j.enfcli.2020.06.056.
- Schiavo R. 2013. Health communication: From theory to practice. Volume ke-217. John Wiley & Sons.
- Schiavo R, Basu Roy U, Faroul L, Solodunova G. 2020. Grounding evaluation design in the socio-ecological model of health: a logic framework for the assessment of a national routine immunization communication initiative in Kyrgyzstan. *Glob Health Promot*. 27(4): 59–68. doi: 10.1177/1757975920914550.
- Shin J, You SY. 2021. The mediating effect of self-efficacy in the relationship between communication skills and practices of preventing infectious

- diseases among daycare center teachers in South Korea. *Child Heal Nurs Res.* 27(1): 56–64. doi: 10.4094/chnr.2021.27.1.56.
- Solihin, Olih; Muslim; Sari IU. 2022. Kerangka Kerja Social Behavior and Change Communication ( SBCC ) Pada Komunikasi Kesehatan. 2(4).
- Solihin, Olih; Lubis, DP; Muljono, Pudji; Amanah, S. (2023). Implementation of Health Communication in TB Management in Indonesia. *Digital Commons @ University of Nebraska - Lincoln*
- Suryandari N. 2022. Stigma pada Suspek COVID-19: Penyebab dan Solusinya. *War ISKI.* 5(1): 1–9. doi: 10.25008/wartaiski.v5i1.144.
- Tashakkori A, Teddlie C. 2010. Mixed Methodology Mengombinasikan Pendekatan Kualitatif dan Kuantitatif. Yogyakarta (ID).
- Usmonov I, Shukurov U. 2021. Features of the Clinical Course, the State of Diagnosis and Treatment of Hiv-Associated Pulmonary Tuberculosis in Modern Conditions Literature Review. Volume ke-25. <http://annalsofrscb.ro>.
- Zaina ASN, Pontoh RS, ... 2021. Pemodelan Dan Pemetaan Penyakit TB Paru di Kota Bandung Menggunakan Geographically Weighted Negative Binomial Regression: Studi Kasus Dinas Kesehatan .... *E-Prosiding .... Sns*. <http://prosiding.statistics.unpad.ac.id/index.php/prosidingnasional/article/view/20%0Ahttp://prosiding.statistics.unpad.ac.id/index.php/prosidingnasional/article/download/20/29>.