

Capacity Building and Participation of Private Health Centers in Tuberculosis Case-Finding in Bangli Regency, Bali Province

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Abstract The 2017-2019 Bangli Regency Health Office data shows that Tuberculosis (TB) case finding in Bangli Regency was below the national target. An evaluation of TB surveillance found that the participation of Private health centers in reporting and finding TB cases remained low in Bangli. Based on this finding, a workshop on strengthening private health service networks in Bangli was conducted online. The topics delivered in the workshop included TB case finding through the public-private mix, the role of private health centers in TB case finding and the results of the evaluation of the TB surveillance system in Bangli Regency. The workshop was attended by 47 participants from various Private health centers in Bangli. The workshop was evaluated using a questionnaire measuring knowledge of TB and TB surveillance. The result shows that most respondents had good knowledge of TB and TB surveillance systems; however, the low participation rate which was only 50% of the target, made it important to send a summary of workshop materials designed in the form of booklets. These booklets have been distributed to all Private health centers, especially those who did not participate in the workshop, to increase knowledge and willingness to participate in TB case finding in Bangli Regency.

1. INTRODUCTION

One of the targets of the Sustainable Development Goals (SDGs) for the 2015–2030 period is to stop the global Tuberculosis (TB) epidemic (World Health Organization, 2019b). In 2019, an estimated 10 million people were infected with TB worldwide. The data also shows that the Southeast Asian region contributed to the majority of TB cases in the world (44%). Indonesia (8%) was the 3rd country out of the eight countries with the most TB cases in the world after India (27%) and China (9%) (World Health Organization, 2019a). In Indonesia, the number of TB cases found in 2019 was 543,874, lower than in 2018, with 566,623 cases. The highest number of cases was reported in West, East and Central Java, with a proportion of 46% of all cases reported in Indonesia (Kementerian Kesehatan RI, 2021). Meanwhile, the number of cases reported in Bali Province in 2018 was 3,751, higher than the previous year with 3,499 cases.

The TB program's success indicators include the case detection rate (CDR) and case notification rate (CNR). Indonesian TB program data shows a decreasing trend in CNR in 2018-2020, from 214 per 100,000 people in 2018 to 130 per 100,000 in 2020 (Kementerian Kesehatan RI, 2021). A similar tendency was shown by TB program data in Bali Province, where the CNR decreased from 87.4 per 100,000 people in 2018 to 66.25 per 100,000 people in 2020 (Dinas Kesehatan Provinsi Bali, 2021). When compared to other provinces in Indonesia, Bali's CNR is ranked the lowest (Kementerian Kesehatan RI, 2021). Based on the TB data in Bali Province, the regency that had the lowest CNR was Bangli. In 2017, the CNR of Bangli Regency was 29.8 per 100,000 people and decreased in 2018 to 27.9 per 100,000 people (Dinas Kesehatan Kabupaten Bangli, 2020).

Based on the Regulation of the Indonesian Minister of Health Number 67 Year 2016 on TB control programs in

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Indonesia, TB case detection is carried out actively and passively. TB case finding is actively carried out through investigation and examination of contact cases, mass screening of vulnerable and at-risk groups, and screening on particular occasions. Meanwhile, passive TB case detection is conducted by examining patients who come to health facilities. The results of TB case findings are managed in a TB surveillance system that is implemented in an integrated manner. Networks or partnerships in TB case detection involve all health stakeholders, including the private sector and other agencies (Menteri Kesehatan Republik Indonesia, 2016). Based on the 2021 TB Control Program Report, the involvement of health facilities in TB detection and reporting was still below the 2021 target (National Strategy for Tuberculosis Control in Indonesia 2020-2024), of which 95% were from the primary health centers, 78% from government hospitals, 63% from private hospitals and 2% Independent Practices/Private Clinics have been involved in finding and reporting TB suspects (Kementerian Kesehatan RI, 2022).

The TB control program in Indonesia cannot be separated from the role of various parties. Support from parties such as the Global Fund and partners (USAID, KNCV Indonesia Foundation) in program funding indeed helps increase TB case finding by involving private doctors and other private health centers (Kementerian Kesehatan RI, 2022). Likewise, the roles of Badan Penyelenggaraan Jaminan Sosial (BPJS), the Indonesian Social Security Administration Agency, as Presidential Regulation Number 67 of 2016 on TB control states that supporting BPJS as the national health insurance provider supports and implements the National TB Elimination Strategy. In this program, BPJS plays a role in matching data between BPJS and the TB Information System (SITB) and individual financing of TB cases (Menteri Kesehatan Republik Indonesia, 2016; Presiden Republik Indonesia, 2022).

The Ministry of Health of the Republic of Indonesia is making efforts to strengthen the TB surveillance system through Public Private Mix (PPM) and monitor the implementation of mandatory reporting of TB patients through the TB program information system by SITB and in private health centers by WIFI-TB (Kementerian Kesehatan RI, 2019). The implementation of the PPM strategy is expected to increase the detection rate of TB cases because it was found that most of the un-notified cases (missing cases) come from private healthcare facilities. The results of a study in Yogyakarta found that private health centers felt less involved by the Department of Health, and the technical involvement of private health centers was not prioritized (Kurniawati, 2018). One study found factors influencing efforts to screen TB cases in private health centers, where there is a reward system in the form of credit points (AOR=4.62; 95% CI: 1.23–17.32), and supervision by TB officer (AOR=13.07; 95% CI: 3.78–45.13) were able to increase the referral rate for suspected TB patients (Dewi et al., 2016).

The low case detection is likely because the CNR in an area is not only influenced by case-finding efforts, it is

also influenced by other factors such as the performance of the recording and reporting system in that area, the number of health facilities involved in TOSS TB and STOP TB activities, and the number of TB patients who are not reported by health facilities (Dinas Kesehatan Kabupaten Bangli, 2019). In Bangli Regency, there are 12 primary health centers (puskesmas) as health facilities that routinely carry out active and passive case finding. However, from the results of initial observations, not all private health centers reported findings or suspected TB cases. These private health centers did not implement direct reporting via WIFI TB or SITB. The results of the TB sweeping show that several Private health centers, including the private midwives, were not involved and did not report findings of suspected TB to the Bangli Regency Health Office. This has become one of the weaknesses in TB case finding in Bangli Regency. Several studies show that the collaboration of public and Private health centers is one of the strategies for increasing TB case findings. In addition, the increase of knowledge of health workers regarding TB and TB case detection, with an easy TB reporting system can be an effective approach to achieving the SDGs target (Ersanti et al., 2017; Pratiwi et al., 2017; Salve et al., 2016; Wahyuni et al., 2019). A study in Bali Province 2013 revealed that the provision of information about the DOTS strategy and referral of TB suspects was important to improve the referral of TB suspects by private practitioners to primary health centres (Putra et al., 2013).

The low detection of TB cases in Bangli compared to other regencies in Bali Province due to the suboptimal network of TB detection in Private health centers and the low reporting of suspected TB cases from Private health centers emphasize the importance of increasing the capacity and the role of Private health centers in conducting early detection, referring, recording and reporting TB cases in Bangli. With the increased capacity and active role of Private health centers, the TB case detection network and the scope of TB case detection and surveillance systems in Bangli will also be increased. In turn, the high coverage of findings will result in optimal TB prevention and treatment implementation.

2. METHOD

This community service has been carried out in Bangli Regency in 2021. Based on an initial assessment with TB program holders at the Bangli Regency Health Office, private health centers have not involved in TB case detection and coordination between the puskesmas and private health centers is minimal. This workshop was devoted to private health centers that aim to increase their role and involvement in TB case finding. Private health centers recorded in Bangli Regency were one private hospital, 6 pratama clinics, 3 private clinics served by several doctors, 40 private doctors, and 13 private specialist doctors, a total of 52 services (Dinas Kesehatan Bangli, 2022). However, from interviews with TB officers at the puskesmas, there were private midwives and private nurses who had the potential to find TB suspects in

Bangli. Invitations to the workshop were distributed through professional organizations, namely the Bangli Branch of the Indonesian Doctors Association, the Bangli Branch of the Indonesian Midwives Association, the Bangli Branch of the Indonesian National Nurses Association, and other private health centers.

An online-full-day workshop was conducted to increase Private health centers' capacity and active role. The topics included TB case finding and surveillance systems, especially with the public-private mix (PPM) approach, the role of Private health centers in TB case detection, and lessons learned from program success in Badung Regency. The workshop also provided an overview of the TB surveillance system in Bangli Regency and the results of the previous evaluation. The evaluation of this activity consisted of an assessment related to the workshop process and the participation of participants, as well as an evaluation of the results in the form of the increased level of knowledge of the participants. This activity also measured the willingness and commitment of private health centers in TB case detection in Bangli Regency. However, long-term evaluation of increased involvement and TB case detection in private health centers has not been carried out.

3. RESULT AND DISCUSSION

3.1 Active involvement of private sector

The workshop activities were started by coordinating with the Bangli Regency Health Office and data collection and information dissemination for professional organizations, namely the Indonesian Doctors Association, the Indonesian Midwives Association, and the Indonesian National Nurses Association. After the information dissemination, 47 people registered to participate, but only 32 people took part in the workshop until the end. Participants of the workshop were only 50% of Private health centers recorded in Bangli Regency, where there are no private hospitals, only one representative from the clinic, and only 13 practicing doctors. It was probably because most health workers were carrying out their duties in an effort to tackle the COVID-19 pandemic. Most of the participants were over 35 years old (74.47%), female (78.72%), diploma 1-3 (44.68%), and private midwives (64%), as shown in Table 1. The workshop was held on September 3, 2021, from 09:00 to 14:00 WITA. The workshop's sessions were covered by the Bali Provincial Health Office, Bangli Regency Health Office, Badung Regency Health Office, Epidemiologists, and National TB Experts, as well as staff from the Department of Public Health and Preventive Medicine, Faculty of Medicine, Udayana University. FK UNUD. The presentations consisted of the results of an initial study on the evaluation of the TB surveillance system in Bangli Regency, the role of Private health centers in finding people with TB in the community, the concept of PPM, TB control in Badung Regency, and continued with an overview of TB cases, discussions, and follow-up plans for strengthening private health service networks in Bangli Regency.

3.2 Capacity building delivery and participant engagement

The workshop was held with the aim of increasing the capacity and participation of Private health centers in TB case detection. The presented materials were discussed together in accordance with the needs of private health centers. Some literature stated that it is important to carry out continuing professional development (CPD) for health practitioners to increase their knowledge and skills in diagnosing and treating patients, especially for health practitioners in rural areas (Campos-Zamora et al., 2022; Chamane et al., 2020; Feldacker et al., 2017).

The complexity of TB treatment has encouraged the formation of a multidisciplinary team of experts to provide advice and guidance to doctors in several countries, including the USA and Europe (Koshy et al., 2021). This workshop was a good initiative, which could later be followed up with inter-service coordination and guidance in diagnosing and treating TB patients in Bangli Regency according to the National TB control guidelines. The workshop activities were held for about 5 hours with the material provided being a TB case finding and surveillance system, especially with the public private mix (PPM) approach, the role of private health centers in TB case finding, and lessons learned from program success in Badung Regency. This workshop emphasized the importance of involving private health centers in TB case finding and the role of private health centers in TB case finding. This workshop did not discuss in depth the technical coordination between health centers and private health centers as well as the TB case reporting recording system such as SITB. From this workshop, it is hoped that the health office and puskesmas can continue to coordinate and involve private health centers in TB case finding.

Table 1 . Characteristics of participants

Characteristics	Frequency (n=47)	Percentage (%)
Age		
Mean ± SD	41.74±7.72	
<35 years old	12	25.53
≥35 years old	35	74.47
Gender		
Male	10	21.28
Female	37	78.72
Education		
Diploma 1-3	21	44.68
Diploma 4-Bachelor	9	19.15
Profession/Specialist/Magister	17	36.17
Type of Health Service		
Private midwives	30	64
Private general practitioners/specialists	13	28
Private nurses	3	6
Hospital/clinic	1	2

This online workshop has several weaknesses. Even though an approach was taken through professional

organizations, the participants who attended had not met the target, possibly because health workers were focusing on COVID-19 countermeasures in Bangli Regency. Then, during the workshop activities, only 3 people (5%) submitted answers when the pretest link was given. It was probable that most of the participants took part in this workshop along with other activities such as the COVID-19 vaccine services and other health services. Another weakness was the possibility that the material was not delivered properly and the internet connection was inadequate in several areas in Bangli Regency. Documentation of the workshop activities can be seen in Figure 1.

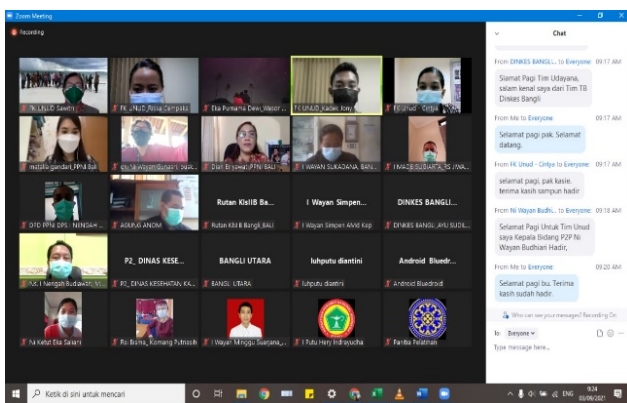


Figure 1 . Documentation of workshop activities

3.3 Evaluation of online workshop and expected outcome

Evaluation of the workshop can be seen from the results of knowledge questionnaires related to TB and TB surveillance. Assessment of knowledge difference between pre and posttest could not be carried out because only a small number of participants (5%) filled out the pretest form. On the other hand, all participants filled out the posttest

question form, and the results show that the median value of knowledge was 18 (min-max=15-19) out of 20 questions. Most respondents had good knowledge of TB and the TB surveillance system, as shown in Figure 2.

Figure 2 shows that only 45% and 57% of participants were able to correctly answer questions about TB causes and TB case detection. As for other questions, the percentages of the correct answer were above 85% to 100%. Questions regarding the cause of TB (is an acid-resistant virus the cause of TB) and TB detection (is it only through positive AFB) might still need to be emphasized again, especially for the non-medical profession because most of the answers were not correct from their group (88.5% and 95%). The low number of correct answers to these two questions was probably because the discussion aspect at this workshop emphasized the involvement of private health centers in TB case finding, not yet on more technical aspects.

There were some aspects that remained not understood by the participants, thus needing attention and follow-up. Studies reveal that workshops which are conducted online for health services in rural areas such as Bangli tend to provide unsatisfactory results due to several obstacles such as signals and not participating in activities completely (Campos-Zamora et al., 2022; Feldacker et al., 2017).

Although the outcome evaluation related to the involvement of private health centers in TB case finding was not carried out, the interest and commitment of private health centers to participate in TB case finding could be seen from their answers after attending this workshop of 88.6% (Table 2). In 2021, the detection of suspected TB cases was 188, and the detection of TB cases was 61. Then, in 2022, the number of suspected TB cases was 528, and the number of TB-notified cases was 90 (Dinas Kesehatan Kabupaten Bangli, 2022). It is possible that this increase is an indirect impact on TB case detection due to the involvement of private health centers in Bangli Regency.

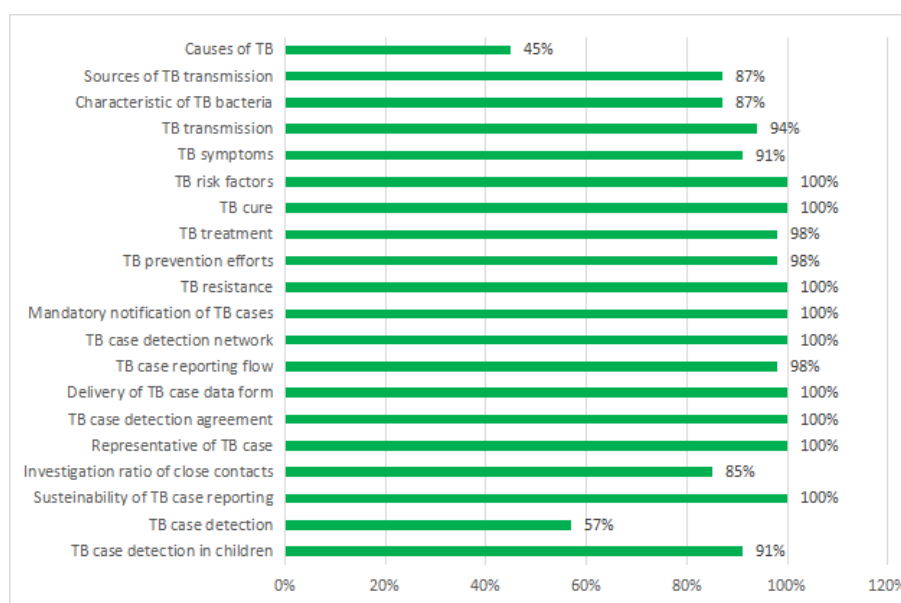


Figure 2 . Proportion of participants' correct answers during posttest

Table 2. Private health service involvement in TB case finding in Bangli Regency

Item*	Frequency	Percentage (%)
Yes	31	88.6
No	1	2.9
No answer	3	8.6

*Commitment to become a TB surveillance network (n=35)

3.4 Strategy for sustainability of public-private partnership in regency level

In addition, the existence of Private health centers that did not participate in the workshop emphasizes the importance of developing a manual for TB case detection for Private health centers. Several studies have proven that manuals have proven to be effective in supporting changes in a person's attitude and behavior; for example, technical manuals for the use of personal protective equipment (PPE) during the treatment of COVID-19 patients provided a significant change in better use of PPE (Parlaungan et al., 2022). The use of personal health and hygiene (PHBS) pocketbooks in schools has proven effective in increasing students' knowledge, attitudes, and intentions in implementing PHBS in schools (Hanif et al., 2019).

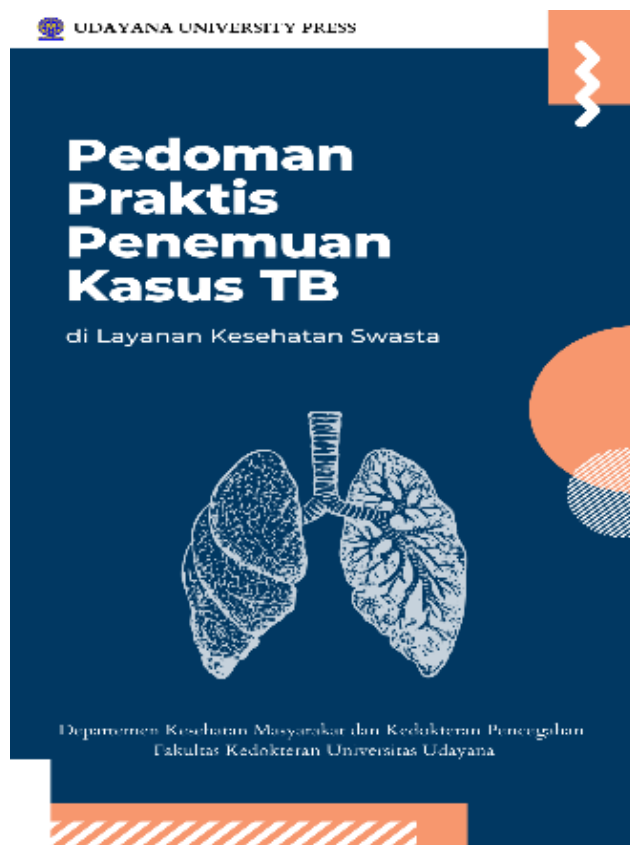


Figure 3. Layout of guidebook for TB case detection for private health services

This TB case-finding manual contains information on TB management, the flow of finding contacts of cases, and TB vice supervisor (Wasor) contacts in a more concise manner. This manual is a practical guide for health care workers, so they can have the same perception in efforts to

increase TB case detection, especially in Bangli Regency. Figure 3 is the picture of the manual that has obtained an ISBN and has been distributed to 52 private health centers and 12 puskesmas in Bangli Regency, including those who did not attend the workshop.

4. CONCLUSION

The workshop was conducted well, but the number of participating Private health centers remained not optimal. The improvement of the participants' knowledge cannot be evaluated, but from the posttest results, it was found that the participants' level of knowledge about TB and TB case detection was quite good. The low participation of Private health centers was followed up by compiling a guidebook as a reference in TB case detection, which was then disseminated to Private health centers, especially for those who did not participate in the workshop. It is aimed that the workshop and the distribution of practical guidebooks for TB case-finding in Private health centers will be able to increase and strengthen the TB case-finding network in Bangli Regency.

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CONFLICT OF INTERESTS

This manuscript has been corrected and approved by all the authors mentioned. All authors mentioned in this manuscript declare that they do not have a conflict of interest. We certify that this article is the author's original work that has never been published before and is not being considered for publication elsewhere. The authors are fully responsible for the manuscript's contents that have been prepared from the beginning, during the revision process, and until it is ready for publication.

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