

Article

Tuberculosis control within Indonesia's hospital accreditation

Puput Oktamianti,¹ Adang Bachtiar,² Sutoto Sutoto,³ Indang Trihandini,² Sabarinah Prasetyo,² Anhari Achadi,² Ferry Efendi⁴

¹Candidate Doctoral Faculty of Public Health, Universitas Indonesia, Depok; ²Faculty of Public Health, Universitas Indonesia, Depok; ³Indonesian Hospital Accreditation Commission, Jakarta; ⁴Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia

Abstract

Background: Tuberculosis (TB) is an infectious disease that is a major problem in Indonesia, placing Indonesia among the three major countries with the highest TB cases in the world. In addition, reporting of TB data from health service facilities, especially hospitals, is still weak. Since the implementation of Directly Observed Treatment Shortcourse (DOTS) in hospitals in 1995, the number of new TB case reports from hospitals is still low. In order to increase hospital participation in TB control, the government has made a breakthrough strategy, which is the integration of the DOTS strategy in hospital accreditation.

Design and methods: This study conducted a literature review and document analysis related TB control standards in hospital accreditation and the implication for the involvement of hospitals in national TB program. This study analyzed regulations, policies, and procedures, including hospital accreditation instruments and annual reports of TB.

Results: Accreditation standards related to TB control include: i) Hospital must implement a tuberculosis control program in the hospital, including monitoring and evaluation through activities such as health promotion, tuberculosis surveillance, controlling risk factors, detection and treatment of tuberculosis cases, providing immunity and preventive drugs; ii) Hospital prepares resources for service delivery and tuberculosis control; iii) hospital provides facilities and infrastructures for tuberculosis services in accordance with regulations; and iv) hospital conducts tuberculosis services and efforts to control tuberculosis risk factors in accordance with regulations.

Conclusions: Standards and elements of the assessment of TB control components in accreditation are adjusted to the national TB control guidelines.

Introduction

TB cases in Indonesia are still a problem and place Indonesia among the top three countries with the highest TB burden in the world. Since 1995, has Indonesia adopted DOTS as a national

strategy for TB's mitigation with gradual expansion, and, since 1999, DOTS initiation is implemented in hospitals. In 2009, the newly-reported TB case data came from only 30% of the hospitals that have implemented the DOTS strategy.¹

Based on WHO reports, TB cases in Indonesia are estimated at more than 1 million and is estimated 690,000 cases were not reported to the National Tuberculosis Programme (NTP). This means the case of a notified TB is only around 32% of the total estimated TB cases.² While referring to the Indonesian Inventory study for TB in 2016-2017, known cases of TB not reported (or the proportion of TB cases detected but not in the integrated TB Information System/SITT) is estimated at 41% (95% CI: 36-45%), which means about 62% of TB cases are not reported by the hospital.³ The situation describes the case of unreported TB in Indonesia is still very high, especially recording and reporting on the discovery of TB cases in hospitals. In fact, nearly three per four patients diagnosed with TB cases are in private health facilities.⁴

One of Indonesia's government policies has been to integrate TB Disease Control into hospital accreditation since 2012. Accreditation is mandatory for the hospital as stated in Law No. 44 the year 2009 about the hospital.⁵ Accreditation is considered a system of judgment that measures hospital performance in respect of compliance with standards or rules set by organizations and governments, processes, and outcomes. Although accreditation is intended for organizational development, accreditation also can describe the national system performance.⁶

Accreditation is a recognition of the quality of hospital services which the hospital has fulfilled accreditation standards. The hospital is obliged to be conducted periodically at least every three years by an independent institution based on the prevailing accreditation standards as required in Law Number 44 the Year 2009. Accreditation is also a process of evaluation used to assess, enhance, and guarantee the quality of service, which refers to the quality and safety standards of the patient. Complying with predefined standards can protect the public because of the guaranteed safety requirements in healthcare.⁷

Accreditation is considered to be able to disseminate and stabilize institutional values, rules, models, and ideas for each organization.⁸ Meyer and Rowan⁹ stated that the suitability between

Significance for public health

Accreditation is an essential element to assess the quality of the hospital handling health problems in the clinical setting. Implementing the hospital accreditation in Indonesia especially for the DOTS strategy requires several standards according to the national TB control guidelines. As a result, achieving optimal TB control through the hospital accreditation and ensuring the quality of care for a patient can be reached. The health worker and public health system take responsibility to ensure implementing the standards of accreditation to control TB cases and achieve effective management.

community demands on organizations could affect the legitimacy of the organization. Westphal et al.¹⁰ explained that an organization that is able to adapt itself to the social group demands, for example with Total Quality Management, can improve the hospital support from The Joint Commission on Accreditation of Healthcare Organization (JCAHO), which is a major source of legitimacy in the healthcare sector in the United States. This suggests that the best way to gain legitimacy is to “conform to environments” or “adjusting to the environment”.⁵ This suggests that organizations need to ensure that social contracts are not violated in order to maintain good legitimacy for the organization and the public always to accept the organization.¹¹

Design and Methods

This study conducted a literature review and document analysis related TB control standards in hospital accreditation and how the implication for the involvement of hospitals in national TB program. We analyzed regulations, policies, and procedures, including hospital accreditation instruments and annual reports of TB. We determined the relevance of documents to the research problem and purpose. The main focus of this research is the assessment elements in the hospital accreditation survey instrument on the national TB control component. Later on, we analyze the elements of the assessment with the prevailing rules and norms. To assure the credibility, accuracy, and representativeness of the selected documents, we prioritized document sources from the Hospital Accreditation Commission and the Ministry of Health. In retrieving these documents, we utilized general online Google searches for keywords associated with “TB or tuberculosis standard in accreditation or TB guidance or TB laboratory standard or TB infection prevention standard”. We conducted document searching and review from July 2019 to March 2020.

Results and Discussion

Hospital accreditation in Indonesia

The implementation of hospital accreditation in Indonesia has been ongoing since 1995 and is managed by the Indonesia Commission on Accreditation of Hospitals (ICAH). Accreditation standards for hospitals in Indonesia are compiled by referring to i) The principles of ISQua accreditation standards; ii) Regulations and legislation, including national guidelines either from the government and profession that must be adhered to and implemented by the hospitals in Indonesia; iii) JCI Accreditation Standard Edition 4 and 5; iv) Hospital accreditation Standard Version 2012; and v) survey studies of the standards and elements to be met by hospitals in Indonesia.⁹ The International Society for Quality in Health Care (ISQua) is an independent and not-for-profit organization in the field of quality assurance systems, especially in healthcare indicators and accreditation of healthcare services and it also has organized annual international conferences on a global and a regional basis.¹¹ ISQua standards have been accepted to be an effective tool in terms of external evaluation bodies because they focus on the organizational characteristics of particularly external evaluation bodies carrying out certification activities.⁷ Then, ICAH updated the accreditation standard to be called National Hospital Accreditation Standard (SNARS). The first edition of SNARS was effectively applied to start January 1st, 2018, and consists of five standards focusing on patient safety, patient focus service standard, national programs, hospital management standard, and integration of medical education and hospital service.¹²

Accreditation assessment standards for TB control

One of the breakthroughs efforts to decrease TB morbidity rates is to increase case findings and ensure the cure of the cases, as targeted by the MDGs, is to include DOTS strategies in hospital accreditation.¹³ The government has included TB control in the hospital accreditation standard version 2012. The target of the MDGs standard is to reduce TB morbidity with implementation standards TB control in the hospital, according to the strategic DOTS guidelines. The elements of the assessment carried out includes:¹⁴ hospital leaders participate in formulating a DOTS TB service plan; hospital leaders participate in determining the entire process/mechanism in the TB DOTS service program including its reporting; the existence of hospital policy and full management support in TB DOTS services in accordance with the standards; the establishment and functioning of the hospital’s TB DOTS Team; the implementation of training to improve the technical capabilities of the DOTS TB Team according to standards; and the implementation of the TB DOTS referral function at the hospital in accordance with relevant policies. Furthermore, the accreditation assessment was revised in SNARS 2018 but still including the program to reduce tuberculosis morbidity. There are four standards related to TB control in hospital accreditation, namely standard 3, standard 3.1, standard 3.2, and standard 3.3.

Standard 3

In standard 3, it states that hospitals must implement a tuberculosis control program in the hospital, including monitoring and evaluation through activities such as health promotion, tuberculosis surveillance, controlling risk factors, finding and handling tuberculosis cases, giving immunity, and providing preventive drugs. The elements assessment for this standard are: a) There are hospital regulations regarding the implementation of tuberculosis control in hospitals and there are plans for tuberculosis control activities with a DOTS strategy in hospital planning; b) The hospital leaders participate in determining the whole process or mechanism in the tuberculosis service program, including its reporting; c) There is evidence of efforts to implement health promotion regarding tuberculosis; d) There is evidence of tuberculosis surveillance implementation and reporting, and e) There is evidence of implementation of tuberculosis prevention efforts through providing immunity with vaccinations or preventive drugs.

Hospital TB regulations refer to government policies in TB management such as including health efforts that prioritizing promotive, preventative, curative, and rehabilitative aimed at protecting public health; decreasing rates of TB morbidity, disability, and death; severing transmission; preventing drug resistance; and reducing the negative impact of TB. TB prevention is carried out through health promotion activities, TB surveillance, risk factor control, detection, and treatment of TB cases, immunity, and providing preventive medicine.¹⁵ The evidence that will be assessed in the accreditation is such as the regulation of TB management implementation and the implementation of activity programs on TB control with DOTS strategy, including budgets of TB service programs such as staff training, facilities, and PPE.¹⁰

In carrying out health promotion, the focused assessments are TB-related education and educational materials.¹⁰ Health promotion efforts are directed to improve precise and comprehensive knowledge about the prevention of TB transmission, TB treatment, hygienic and healthy lifestyles resulting in changes in attitudes and behaviors of patients, patients’ families, hospital visitors, and staff. Education can be done through audiovisuals, leaflets, posters, banners, or videos through television in the waiting room.¹⁵

Standard 3.1

The elements of Standard 3.1 to assess the conformity of standard regarding preparation resources for service delivery and tuberculosis control by the hospital include:¹⁰ a) There is evidence of the structure of the DOTS team and its action program; b) There is evidence of training in services and efforts to control tuberculosis; c) There is evidence of implementation of the DOTS team program; d) There is evidence of implementation of a tuberculosis control system monitoring and evaluation; and d) There is evidence of reporting and analysis encompassing health promotion, tuberculosis surveillance, controlling risk factors, tuberculosis cases finding and treatment, providing immunity and preventive drugs.

The DOTS team is a functional unit under the coordination of the director or deputy director of medical services determined by the decision letter of the director of the hospital. The head of the DOTS team is a pulmonary or an internist or other specialist or general physician who is certified in Tuberculosis Service Training with DOTS Strategy at the hospital. In carrying out its duties, the DOTS team at the hospital performs 1) planning for all needs for TB services in the hospital, including trained personnel, budget, medicine, reagents, equipment, recording, and reporting; 2) regular meetings to discuss all findings related to the implementation of services for TB patients in hospitals; 3) monitoring and evaluation of the implementation of DOTS services in hospitals in coordination with each functional medical staff units and DOTS unit.¹⁶ Training in TB control for DOTS teams can be initial training in basic DOTS implementation, training related to TB management program, and continued training or advanced training.

For the surveillance, the hospital conducts recording and reporting by using the tuberculosis form to record in either manual and electronic reporting, namely the integrated tuberculosis information system (*Sistem Informasi Tuberculosis Terpadu* or SITT). The forms used to record TB cases in hospitals are TB Patient Treatment Card (namely TB.01), TB suspect register book (namely TB.06), etc.¹⁵

Standard 3.2

The elements of Standard 3.2 to assess the conformity of the standard regarding facilities and infrastructures for tuberculosis services in accordance with regulations are a) There is an outpatient service room that meets the guidelines for prevention and control of tuberculosis infection; b) If the hospital provides inpatient services for adult pulmonary tuberculosis patients, the hospital must have an inpatient room that meets the guidelines for prevention and control of tuberculosis infection; c) There is a space for sputum specimen collection that meets the guidelines for the prevention and control of tuberculosis infection, and d) There is a tuberculosis laboratory room that meets the guidelines for the prevention and control of tuberculosis infection.

Hospital units that are at high risk of TB transmission are DOTS units, pulmonary inpatient service, culture room and DST (Drug Susceptibility Testing), sputum collection room, TB bacteria sputum examination laboratory, TB bacteria culture, and MDR service room.¹⁷ In inpatient service, the position setting of the medical personnel, patient, and mechanical ventilation in the room should consider the direction of the incoming and outgoing clean air supply.¹ For the prevention and control of airborne infections in outpatient service, adequate ventilation is necessary for all patient service areas in health facilities. By increasing natural ventilation, such as opening windows and doors, placement of windows or doors on opposite walls allowing through-flow of air, ceiling height, and wind speed, this can reduce the risk of TB transmission.¹⁸

Patients who have or are suspected of having infectious TB

disease and need hospitalization should be placed in an area away from other patients, preferably in an airborne infection isolation room. This room is a single-occupancy patient-care room in which environmental factors are controlled to minimize the transmission of infectious agents. The ward for TB / MDR TB patients should use negative pressure rooms. For hospitals that have not been able to provide this space, they must have a room with adequate ventilation, at least 12 x/hour of air exchange (measured by a variometer).¹

The standard for sputum collection refers to the guidelines. Sputum collection is carried out in a special place or open space which ensures prevention of transmission and patient comfort. It can be conducted in a sputum collection booth, or a room with the correct ventilation system settings. If accompanied, he/she must use a particulate respirator. The patient should stay indoors until the cough subsides and the cough stops. The room should be left empty until the air is clear before the next patient is admitted. For resource-limited facilities, the patient is asked to collect sputum outside the building, in an open area, and away from accompanying persons or other persons. Sputum collection is not allowed to use the toilet. The sputum container should be wide mouth and threaded. The container does not need to be sterile but must be clean and dry. A container specially provided by the laboratory should always be used.¹⁷ Components that play a role in the safety of TB laboratories are such as laboratory infrastructure, equipment, materials used, work processes, personnel skills, and TB laboratory waste management. These components must be harmonized from both the management and the technical aspects of the laboratory to ensure the safety of staff and the environment.¹⁵

Types of TB laboratory examinations are microscopic TB test, culture and sensitivity tests, biomolecular, and serology. Biomolecular-based TB diagnostic tests use the Xpert MTB/RIF system which detects TB bacteria and identifies sensitivity to Rifampin. The microscopic examination room for TB should be separated from other examination rooms. There should be restrictions on access in and out of the room. The waste management produced by the laboratory is a temporary shelter, liquid waste treatment, and solid waste disposal.¹⁹

Standard 3.3

The assessment elements of Standard 3.3 that the hospital conducts tuberculosis services and efforts to control tuberculosis risk factors in accordance with regulations include a) The hospital has a tuberculosis clinical practice guide; b) There is evidence of medical staff adherence to tuberculosis clinical practice guidelines; c) The screening process for tuberculosis patients was carried out at registration; d) There is evidence of staff adhering to the use of personal protective equipment (PPE) when in contact with patients or specimens, and e) There is evidence that visitors comply with the use of personal protective equipment (PPE) when in contact with patients.²⁰

Placement of TB patients who have never received anti-TB drugs therapy must be separated from other patients, while TB patients who have received anti-TB drugs therapy effectively based on a risk analysis that they do not have the potential to transmit new TB can be collected with other patients.¹⁹ The use of particulate respirators as personal protective equipment by healthcare workers in service settings is essential to reduce the risk of exposure. Healthcare workers need to use a respirator when performing high-risk procedures or working in high-risk areas, including when providing care to patients or when dealing with suspected MDR - TB and XDR - TB patients.²¹

The implication for the National TB Program

In 2012, the number of hospitals that implemented TB services using the DOTS strategy was around 30%, which included govern-

ment, state-owned, military, police, and private hospitals.²⁰ The involvement of hospitals in implementing the DOTS strategy is increasing so that, in 2018, it reached 48.4% of hospitals. The proportion of TB case findings in hospitals also increased, around 26.4% in 2015, then increasing to 46.3% in 2018. This shows that the involvement of hospitals in reporting TB case data is getting better.²²

Conclusion

The government is trying to control TB cases in Indonesia. This includes taking advantage of the opportunity for the hospital's obligation to carry out accreditation as stipulated in the law. Standards and elements of the assessment of TB control components in accreditation are adjusted to the national TB control guidelines. Although the number of hospitals implementing TB programs with the DOTS strategy has shown an increase, it is still necessary to evidence scientifically whether this is influenced by the existence of a TB control program in hospital accreditation.

Correspondence: Puput Oktamianti, Faculty of Public Health, Universitas Indonesia, Depok, Indonesia.
E-mail: oktamianti@gmail.com

Key words: Hospital accreditation; tuberculosis.

Contributions: PO, AB, conceptualization, data curation, formal analysis, investigation, original draft preparation; SS, original draft preparation, review & editing; IT, SP, methodology, original draft preparation, review & editing, investigation, methodology, project administration, supervision; AA, FE, original draft preparation, review & editing. All the authors have read and approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

Acknowledgements: We thank all members of our study team for their whole-hearted cooperation and the original authors of the included studies for their wonderful work. We also thank Faculty of Public Health Universitas Indonesia for financial support.

Conflict of interest: The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical approval: Not applicable.

Funding: The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article. PO received funding support from the Faculty of Public Health Universitas Indonesia during her doctoral degree.

Received for publication: 5 October 2020.

Accepted for publication: 11 April 2021.

©Copyright: the Author(s), 2021

Licensee PAGEPress, Italy

Journal of Public Health Research 2021;10:1979

doi:10.4081/jphr.2021.1979

This work is licensed under a Creative Commons Attribution NonCommercial 4.0 License (CC BY-NC 4.0).

References

1. Ministry of Health Republic Indonesia. [Pedoman Manajerial Pelayanan Tuberkulosis Dengan Strategi DOTS di Rumah Sakit (Tuberculosis Service Managerial Guidelines With the DOTS Strategy in Hospita)].[in Indonesian]. Jakarta: Ministry of Health Republic Indonesia; 2010.
2. World Health Organization. The Republic of Indonesia Joint External Monitoring Mission Tuberculosis 2017 Final Report. 2017. Available from: https://www.who.int/docs/default-source/searo/indonesia/non-who-publications/2017-joint-external-tb-monitoring-system-indonesia.pdf?sfvrsn=a10eb522_2
3. World Health Organization. Global tuberculosis report 2018. Geneva: World Health Organization; 2018. Available from: <https://apps.who.int/iris/handle/10665/274453>
4. Surya A, Setyaningsih B, Suryani Nasution H, et al. Quality tuberculosis care in Indonesia: using patient pathway analysis to optimize public-private collaboration. *J Infect Dis* 2017;216:S724-32.
5. Deephouse DL, Suchman M. Legitimacy in organizational institutionalism. In R. Greenwood, C. Oliver, R. Suddaby, Editors. *The SAGE handbook of organizational institutionalism*. SAGE Publications Ltd.; 2008. p. 49-77.
6. World Health Organization. Quality and accreditation in health care services: a global review. Geneva: World Health Organization; 2003. Available from: <https://apps.who.int/iris/handle/10665/68410>
7. Berктаş M, Kayral I, Güdük Ö. Which standards are more effective for healthcare external evaluation organizations management systems? ISQua 4th Ed. vs ISO 9004:2009. *J Bus Res Turk* 2018;10:271-81.
8. Jennifer L, Bartlett JP. Reputation and legitimacy: Accreditation and rankings to assess organizations. In: Dalam C.E. Carroll, Editor. *The handbook of communication and corporate reputation*. J.Wiley & Sons, Inc.; 2013. p. 530-44.
9. Meyer JW, Rowan B. Institutionalized organizations: Formal structure as myth and ceremony. *Am J Sociol* 1977;83:340-63.
10. Westphal JD, Gulati R, Shortell SM. Customization or conformity? An institutional and network perspective on the content and consequences of TQM adoption. *Adm Sci Q* 1997;366-94.
11. Fernando S, Lawrence S. A theoretical framework for CSR practices: Integrating legitimacy theory, stakeholder theory and institutional theory. *J Theor Account Res* 2014;10:149-78.
12. Indonesia Commission on Accreditation of Hospitals (ICAH). [ReDOWSKo: Regulasi, Dokumentasi, Observasi, Wawancara, Simulasi, Konfirmasi (ReDOWSKo: Regulation, Documentation, Observation, Interview, Simulation, Confirmation)].[in Indonesian]. Jakarta: Indonesia Commission on Accreditation of Hospitals; 2018.
13. Shaw C. How can hospital performance be measured and monitored? Geneva: World Health Organization Regional Office for Europe; 2003. Available from: euro.who.int/_data/assets/pdf_file/0009/74718/E82975.pdf
14. Indonesia Commission on Accreditation of Hospitals (ICAH). [Standar Nasional Akreditasi Rumah Sakit (SNARS) (National Hospital Accreditation (SNARS) standard)].[in Indonesian]. 1st ed. Jakarta: Indonesia Commission on Accreditation of Hospitals; 2018.
15. Ministry of National Development Planning, National Development Planning Agency Republic Indonesia. [Laporan Pencapaian Tujuan Pembangunan Milenium di Indonesia 2011 (Report on The Achievement of The Millennium Development

- Goals in Indonesia 2011)].[in Indonesian]. Ministry of National Development Planning, National Development Planning Agency Republic Indonesia. 2012.
16. Ministry of Health Republic Indonesia. National Strategies for Tuberculosis Control 2011-2014. Jakarta: Kementerian Kesehatan RI; 2011.
 17. Ministry of Health Republic Indonesia. [Peraturan Menteri Kesehatan Republik Indonesia Nomor 67 Tahun 2016 Penanggulangan Tuberculosis (Regulation of Ministry of Health Republic Indonesia Number 67 of 2016 on tuberculosis control)].[in Indonesian]. Jakarta: M Ministry of Health Republic Indonesia; 2016.
 18. Ministry of Health Republic Indonesia. [Pedoman Pencegahan dan Pengendalian Infeksi Tuberculosis di Fasilitas Pelayanan Kesehatan (Guidelines for the prevention and control tuberculosis infection in health care facilities)].[in Indonesian]. Jakarta: Ministry of Health Republic Indonesia. 2012.
 19. Ministry of Health Republic Indonesia. [Peraturan Menteri Kesehatan Nomor 27 Tahun 2017 Tentang Pedoman Pencegahan dan Pengendalian Infeksi di Fasilitas Pelayanan Kesehatan (Regulation of Ministry of Health Number 27 Year 2017 on Guidelines For Infection Prevention And Control in Health Care Facilities)].[in Indonesian]. Jakarta: Ministry of Health Republic Indonesia; 2017.
 20. Ministry of Health Republic Indonesia. Standar Pelayanan Laboratorium Tuberculosis. Katalog Dalam Terbit Kementerian Kesehat Nas (Standard for Tuberculosis Laboratory Service)].[in Indonesian]. Jakarta: Ministry of Health Republic Indonesia; 2015.
 21. Escombe AR, Oeser CC, Gilman RH, et al. Natural ventilation for the prevention of airborne contagion. PLoS Med 2007;4:e68.
 22. Ministry of Health Republic Indonesia. [Laporan Program Tuberculosis 2018 (Tuberculosis Program Report 2018)].[in Indonesian]. Jakarta: Ministry of Health Republic Indonesia; 2019.