

**CASE REPORT: STUNTED TODDLER WITH TUBERCULOSIS (TB) AND FEEDING DIFFICULTIES**

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**Abstract**

**Introduction:** Babies and toddlers are the golden period for growth and development. However, they are also one of the vulnerable groups when it comes to health problems, one of which is stunting and tuberculosis. Babies and toddlers who experience stunting followed by TB can face various complex issues, including delayed growth and development, suboptimal brain function, and reduced immunity. **Objective:** To describe the implementation of comprehensive midwifery care for a stunted toddler with TB and feeding difficulties, and to track clinical progress during the period of support. **Methods:** A case report concerning "Child A," a 28-month-old male toddler experiencing stunting, TB, and feeding difficulties. Midwifery care was administered using the SOAP (Subjective, Objective, Analysis, and Plan) approach. Support was provided over four months across five visits at the Puntukdoro Village Auxiliary Community Health Center (Pustu), Plaosan District, Magetan Regency; activities included monitoring growth, nutritional status, and clinical progress, ensuring adherence to Anti-Tuberculosis (OAT) therapy, administering multivitamins, providing nutritional education, facilitating growth and development stimulation, and engaging the family. **Results:** Initial assessment revealed a 27-month-old toddler with a height of 79 cm (classified as stunted based on the Height-for-Age index) and a weight of 8.8 kg. He had a history of TB, was undergoing OAT therapy, and experienced feeding difficulties characterized by poor appetite and a cough. After four months of support, his appetite improved, the cough subsided, and his activity levels increased; adherence to OAT therapy remained consistent. His weight rose by 1 kg to 9.8 kg, and his height increased by 3.5 cm to 82.5 cm. The parents also demonstrated greater involvement in providing nutrition and multivitamins, as well as monitoring the child's growth and development. **Conclusion:** Comprehensive midwifery care over four months—encompassing clinical monitoring, OAT therapy management, nutritional support, growth and development stimulation, and family involvement—contributed to improvements in the toddler's clinical condition, appetite, activity levels, growth, and nutritional status. Families are also capable of planning routine TB management. Ongoing support is required to ensure adherence to Anti-Tuberculosis Drug (ATD) regimens and to optimize the child's growth and development.

**Keywords:** Stunting; Tuberculosis; Toddlers; Anti-Tuberculosis Medication (ATM)

**Article History**

Received: Agustus 2026  
Reviewed: Agustus 2026  
Published: Agustus 2026

Plagiarism Checker No 950  
Prefix DOI : Prefix DOI :  
10.8734/Nutricia.v1i2.365  
**Copyright : Author**  
**Publish by : Medic Nutricia**



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## INTRODUCTION

Stunting in toddlers is still a serious public health problem because it has long-term effects on physical growth, cognitive development, and increases the risk of diseases in adulthood. This issue becomes even more complicated when stunting is accompanied by chronic infectious diseases like Tuberculosis (TB), which directly affect a child's nutritional status through reduced appetite, impaired nutrient absorption, and increased metabolic needs. Toddlers with TB have a higher risk of growth failure due to prolonged inflammation and the disease burden, which not only hinders weight and height gain but also worsens overall health (Nurmaliani et al, 2025).

Data on the impact of physical growth disturbances due to stunting in toddlers worldwide: around 23.2-22.3%, and in Indonesia, the data on physical growth disturbances in toddlers is about 19.8-21.5%. The impact on cognitive delays significantly related to malnutrition is 12.3% of children in 47 Low and Middle Income Countries (LMIC) with evidence of cognitive delays related to nutritional deficiencies. In a cross-sectional survey in Indonesia (using the Indonesia Family Life Survey), it was found that about 41.1% of stunted children have cognitive abilities below the average for children. The Indonesian government aims to reduce the prevalence of stunting to 18.8% by 2025 and 14.2% by 2029. Currently, the national stunting prevalence is still around 19.8%, so efforts to reduce it still need to be increased (Ministry of National Development Planning, 2024). At the East Java provincial level, the target of the Regional Medium-Term Development Plan (RPJMD) for East Java is 13.36% by 2029, while the current prevalence is around 14.7% (East Java Provincial Government, 2024). Meanwhile, the Magetan Regency government aims to reduce stunting prevalence to below 14% by 2024, and has currently managed to lower it to 8.8% (Magetan Regency Government, 2024).

Factors that influence stunting include inadequate nutrition over the long term, the mother's nutritional and health status during pregnancy, and parents' low knowledge about nutrition, which affects caregiving and proper feeding. In addition, recurring infectious diseases like diarrhea, respiratory infections, and tuberculosis, poor environmental and sanitation conditions, as well as socioeconomic factors such as low family income and limited access to health services, also increase the risk of stunting in young children (World Health Organization, 2020). Stunting has short-term effects like physical growth problems, delays in motor and cognitive development, and weaker immune systems, while the long-term effects include lower learning abilities, reduced productivity in adulthood, higher risk of non-communicable diseases, and impacts on future health and economic quality (Ministry of Health of the Republic of Indonesia, 2021).

Efforts to tackle stunting require a comprehensive and continuous approach from pregnancy to toddlerhood, through adequate nutrition, monitoring the nutritional status of mothers and children, as well as preventing and handling infectious diseases. Midwives play a very important role in early detection of stunting risk factors through antenatal care (ANC), nutrition education for pregnant mothers and families, promoting exclusive breastfeeding, providing appropriate complementary foods, and monitoring toddler growth at posyandu. Integrating stunting and TB management in Magetan Regency is crucial to breaking the cycle of nutrition-infection problems and achieving sustainable health targets (Saadah et al. 2022).

## **METHOD**

This research is a type of qualitative research with a Case Report approaches. The subject in this case report is The subject of this study is a 28-month-old toddler with stunting and a diagnosis of Tuberculosis (TB), who is a picky eater and receives health care services at primary health care facilities as well as referrals. Location of the research is Pustu Desa Puntukdoro, Kecamatan Plaosan, Kabupaten Magetan. The researcher visited the patient's house once a month for 4 months. Data collection in this case study was done through several stages, including interviews, observations, physical examinations, and document studies. All midwifery care data was systematically documented using the SOAP format (Subjective, Objective, Assessment, and Plan) according to midwifery care documentation standards. Midwifery care was carried out continuously by the practicing midwife, with the involvement of students from the Midwifery D3 Study Program as prospective midwives under the supervision and guidance of the supervising midwife at the practice site.

## **RESULT AND DISCUSSION**

Subject A is a 28-month-old boy with stunting issues, accompanied by Tuberculosis (TB) and appetite problems. Based on an interview with his mother, it was found that he has had difficulty eating for some time, which has led to insufficient energy and nutrient intake needed to support his growth. Additionally, the mother explained that he was diagnosed with TB in December 2025, after having persistent cough and fever for a considerable period. His health history also shows Low Birth Weight (LBW), with a birth weight of 2,410 grams at 40-41 weeks of gestation, and the father is an active smoker. Based on this information, the child has several interrelated risk factors that could affect his growth and nutritional status.

The history of LBW in An. A is also an important fact to note because babies with low birth weight have fewer nutritional reserves and are more vulnerable to growth problems later on. According to the World Health Organization (WHO, 2023), stunting is a condition of growth failure due to chronic malnutrition that lasts for a long time and is often worsened by repeated infections. In this case, the presence of TB is very likely to make stunting worse because chronic infectious diseases can reduce appetite, increase the body's energy needs, and interfere with nutrient utilization. In reality, children with TB often experience weight loss, difficulty eating, and growth that doesn't match their age. This is in line with the condition of An. A, who has low food intake and suboptimal height growth.

The anthropometric examination showed that the child weighs 8.8 kg and is 79 cm tall. Based on measurements using child anthropometry standards from the Indonesian Ministry of Health and the World Health Organization (WHO), the Height-for-Age (H/A) index is below -2 Standard Deviations ( $<-2$  SD), confirming that the child is experiencing stunting. In addition to experiencing stunting, the child was also diagnosed with Tuberculosis. TB infection in children increases the basal energy requirement due to chronic inflammatory processes. On the other hand, this inflammation triggers the release of proinflammatory cytokines such as Tumor Necrosis Factor- $\alpha$  (TNF- $\alpha$ ), Interleukin-1 (IL-1), and Interleukin-6 (IL-6), which can suppress the appetite center in the hypothalamus, causing the child to experience anorexia, reduced food intake, and weight loss (World Health Organization 2023). This condition leads to unmet energy needs, thus hindering the child's height and weight growth.

The results of the objective examination in this case are also supported by a history of low birth weight (LBW) at 2,410 grams. According to research by Wulandari et al. (2023), a

history of LBW is one of the main determinants of stunting because babies have lower nutrient reserves from birth and are more vulnerable to growth problems if they also have infections and inadequate nutrition. In this condition, toddlers also have trouble eating. Research by Suratri, M. A. L., et al. (2025) explains that toddlers who experience a long-term loss of appetite are at a higher risk of growth problems because a lack of energy and protein slows down the formation of body tissues. If this condition comes along with a chronic infection like TB, the risk of stunting will increase significantly.

Over roughly four months of monitoring, A, along with their parents, has carried out most of the recommendations given by healthcare workers. The midwifery care provided focused on managing stunted toddlers with Tuberculosis (TB) and appetite issues through promotive, preventive, curative, and rehabilitative approaches. Management included education about stunting and TB, nutrition counseling, monitoring growth and development, age-appropriate stimulation, support for adherence to Anti-Tuberculosis Drug (ATD) therapy, practicing Clean and Healthy Lifestyle (PHBS), and collaboration with doctors and nutritionists. In addition, the parents were also educated about local health center programs, such as giving multivitamins to boost appetite and an egg distribution program from the Livestock Department as a source of animal protein to help improve the child's nutritional status.

The first intervention provided is education about stunting, including its definition, causes, risk factors, impact on growth and development, as well as the importance of early detection through regular growth monitoring at Posyandu or the Community Health Center. Parents are given the understanding that stunting is a chronic nutritional problem that is not only characterized by short stature but also poses risks to cognitive abilities, motor development, immunity, and the child's future productivity. The next intervention focuses on improving the child's nutritional status. Parents are counseled on providing balanced nutritious food according to the My Plate principle, by increasing the intake of high-energy and high-protein foods such as eggs, fish, chicken, meat, milk, legumes, as well as vegetables and fruits as sources of vitamins and minerals. In addition to main meals, parents are advised to provide nutritious snacks two to three times a day.

Besides nutrition education, parents receive guidance on the importance of adhering to OAT therapy. Growth monitoring is done every month by measuring weight, height, and evaluating nutritional status based on WHO anthropometric standards. In addition, age-appropriate development is monitored through growth and development stimulation, along with education on the importance of keeping the environment clean, washing hands with soap, maintaining food hygiene, and reducing exposure to cigarette smoke at home to prevent recurring infections that could worsen the child's nutritional condition.

## **CONCLUSION AND SUGGESTION**

Based on the midwifery care results we can conclude that the child has experienced a decrease in appetite since being diagnosed with Tuberculosis (TB), so their ability to eat has reduced. The mother reported that the child is regularly receiving Anti-Tuberculosis Medication (OAT) at the community health center. The parents complain about the difficulty in gaining weight even though various types of food have been provided. The midwifery care provided includes educating parents about stunting, tuberculosis, toddler nutritional needs, and feeding strategies (small but frequent portions). Emphasis is placed on the importance of animal protein consumption, adherence to OAT administration, monitoring growth and development, age-

appropriate developmental stimulation, as well as practicing Clean and Healthy Living Behavior (PHBS). In addition, cross-professional collaboration is carried out through the community health center program, such as providing appetite-boosting multivitamins and an egg distribution program from related agencies as a source of animal protein. The implementation of this evidence-based intervention shows positive results, including improved appetite, weight gain from 8.8 kg to 9.8 kg, reduced TB symptoms, increased parental adherence to therapy, and greater family involvement in meeting nutrition needs and monitoring growth. Therefore, comprehensive, holistic, and sustainable midwifery care is needed.

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