e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers

International Journal of Health Sciences (IJHS)

Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index

Volume 4 | Number 3 | September 2026 |

Analysis Of Antituberculosis Drug Program Utilization In Tuberculosis Patients At The Outpatient Installation Of Pindad General Hospital, Bandung

Ulpa[1*], Rida Emelia[2]

[*1,2] Pharmacy Study Program, Politeknik Piksi Ganesha, Indonesia

[1]ulfaaa2223@gmail.com[*]

Abstract

Tuberculosis (TB) remains an infectious disease that requires long-term and standardized treatment to achieve therapeutic success. Appropriate use of antituberculosis drugs and regular monitoring are important components of the TB control program. This study aimed to describe the characteristics of TB patients, treatment phases, antituberculosis drug regimens, and additional medications administered to patients at the outpatient installation of Pindad General Hospital, Bandung. This study used a descriptive observational design with a retrospective approach. Data were obtained from secondary data consisting of TB patient prescriptions and treatment records recorded in the Tuberculosis Information System (SITB) during March–April 2026. The study population consisted of 30 TB patients, and total sampling was used. Data were analyzed descriptively using frequencies and percentages. Of the 30 patients, 19 (63.3%) were male and 11 (36.7%) were female. The largest age group was 0–10 years, comprising 14 patients (46.7%). Based on treatment phase, 10 patients (33.3%) were in the initial intensive phase and 20 patients (66.7%) were in the continuation phase. Antituberculosis therapy was administered using Fixed-Dose Combination (FDC) regimens, including 4FDC for adults and 3FDC for children during the intensive phase, and 2FDC during the continuation phase. Additional medications included Vitamin B6, multivitamins, Curcuma preparations, and other supportive medications. All patients (100%) were still undergoing treatment, so treatment outcomes had not been completed. TB patients at Pindad General Hospital were predominantly male and aged 0–10 years. Most patients were in the continuation phase and received FDC antituberculosis therapy. Regular prescription screening and treatment monitoring are needed to support the appropriate implementation of the TB treatment program.

Keywords: Tuberculosis, Antituberculosis Therapy, Patient Characteristics, Treatment Categories

Corresponding Author: Ulpa
Email: ulfaaa2223@gmail.com

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers

International Journal of Health Sciences (IJHS)

Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index

Volume 4 | Number 3 | September 2026 |

1. Introduction

Tuberculosis (TB) is a chronic infectious disease caused by the bacterium Mycobacterium tuberculosis, which primarily affects the lungs, although it can also involve organs outside the lungs (extrapulmonary TB) (WHO, 2024). According to the latest report by the World Health Organization (2024), tuberculosis has once again become the infectious disease with the highest mortality rate in the world, surpassing Human Immunodeficiency Virus (HIV). In 2023, an estimated 10.8 million new TB cases occurred globally, with 1.25 million preventable deaths. Indonesia ranks second among the countries with the highest TB burden in the world after India, accounting for approximately 10% of the total global TB cases (WHO, 2024). These data indicate that TB remains a public health problem requiring effective control efforts at both the national and regional levels.

At the national level, the estimated incidence of TB in Indonesia reached 1,060,000 cases in 2023, with an incidence rate of 394 per 100,000 population (WHO, 2024). The Indonesian Ministry of Health recorded 804,836 TB cases in 2023, a significant increase compared with previous years. West Java is the province with the highest TB burden nationally, with 233,334 new TB cases recorded, equivalent to 22% of the total TB cases in Indonesia (West Java Provincial Health Office, 2024). The city of Bandung, as the provincial capital and a densely populated center, also contributes significantly to this case count, making the region a national priority for TB control interventions. The high number of cases demands effective and standardized treatment implementation to achieve therapeutic success and reduce disease transmission.

TB treatment is carried out through the DOTS (Directly Observed Treatment Short-course) program, which is centrally managed through the Tuberculosis Information System (SITB). The TB treatment regimen consists of two phases: an intensive phase lasting two months using four types of drugs (Rifampicin/R, Isoniazid/H, Pyrazinamide/Z, Ethambutol/E, or 4FDC for adults; Rifampicin, Isoniazid, and Pyrazinamide, or 3FDC for children), followed by a continuation phase lasting four months using two types of drugs (Rifampicin and Isoniazid, or 2FDC). Antituberculosis drugs (OAT) are now available in Fixed-Dose Combination (FDC) form to simplify drug administration, improve adherence, and minimize the risk of resistance (Ministry of Health of the Republic of Indonesia, 2021). Based on treatment history, patients are categorized into Category I (new patients who have never received antituberculosis drugs or have received them for less than one month) and Category II (patients with a previous treatment history, such as relapse, failure, or default cases), each requiring a different regimen. Although treatment guidelines have been established nationally, the implementation of antituberculosis drug use at each health facility may show different characteristics, so periodic evaluation is necessary.

Various studies evaluating antituberculosis drug use have been conducted at several health facilities in Indonesia, particularly at community health centers (puskesmas)

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers

International Journal of Health Sciences (IJHS)

Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index

Volume 4 | Number 3 | September 2026 |

and large government hospitals, one of which is Pindad General Hospital, Bandung. However, data on the characteristic profile of TB patients and antituberculosis drug use patterns at semi-private health facilities such as Pindad General Hospital, Bandung, remain very limited and have not been scientifically documented. This limitation means that information on patient profiles and treatment patterns at this hospital has not been optimally utilized as a basis for service evaluation.

Based on prescription screening data at the outpatient installation of Pindad General Hospital, Bandung, during the period of March 2026 to April 2026, there was considerable variation in patient characteristics, namely the predominance of pediatric patients aged 0–10 years, diversity in TB diagnoses (pulmonary and extrapulmonary), and varied use of additional medications. Prescription screening is one of the initial recording and reporting activities for TB patients at primary health care facilities. Prescription screening data contain basic patient information, including name, age, sex, and type of TB diagnosis. This information is important for understanding the distribution pattern of TB patient characteristics in a given area, so that it can serve as a basis for evaluating TB control programs, particularly at the outpatient installation of Pindad General Hospital, Bandung. Therefore, a study is needed that can describe patient characteristics while also evaluating antituberculosis drug use patterns based on available data.

Based on a review of studies conducted at Pindad General Hospital, Bandung, most research on TB has focused on patient education, disease management, and factors associated with TB outcomes or success. Research on TB has generally only been examined within the broader health field. However, in the field of pharmacy, no study has specifically examined the Antituberculosis Drug Program, particularly regarding patient characteristics, treatment categories, and the use of additional medications. Yet this information is important for evaluating the implementation of the Antituberculosis Drug Program and for improving the quality of pharmaceutical services and TB control at Pindad General Hospital, Bandung.

Based on the description above, this study aims to: (1) describe the distribution of TB patient characteristics based on age, sex, and diagnosis at the outpatient installation of Pindad General Hospital, Bandung; (2) analyze the treatment categories and antituberculosis drug (FDC) regimens used; and (3) describe the pattern of additional medication/supplement administration accompanying antituberculosis drug therapy. The results of this study are expected to serve as a scientific reference for health workers in efforts to improve the quality of pharmaceutical services and optimize TB control programs at Pindad General Hospital, Bandung.

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers

International Journal of Health Sciences (IJHS)

Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index

Volume 4 | Number 3 | September 2026 |

2. Research Method

This study is an observational descriptive study with a retrospective approach, namely a study conducted by analyzing previously available data without intervention on the research subjects. The descriptive design was used to systematically describe the distribution of patient characteristics and patterns of antituberculosis drug (OAT) use rather than to examine cause-and-effect relationships. The data used were secondary data in the form of TB patient prescriptions obtained from the outpatient installation of Pindad General Hospital, Bandung, during March 2026 to April 2026 and recorded in the Tuberculosis Information System (SITB). This study also applied elements of a semi-cohort study design or ongoing clinical study because the treatment outcomes of the patients had not yet been completed. The study was conducted at Pindad General Hospital, Bandung, West Java, including the preparation, data collection, and data processing stages. The data analyzed consisted of outpatient TB prescription records obtained from Pindad General Hospital, Bandung.

The population in this study consisted of all tuberculosis patients at the outpatient installation of Pindad General Hospital, Bandung, during the study period, totaling 30 patients. The sample was determined using total sampling because the population size was relatively small, so all members of the population who met the established criteria were included as research samples. The inclusion criteria were patients diagnosed with pulmonary or extrapulmonary tuberculosis and registered in the SITB at Pindad General Hospital, patients receiving program antituberculosis drugs in Fixed-Dose Combination (FDC) form provided by the Health Office during March 2026 to April 2026, patients with complete prescription data including name or initials, age, sex, diagnosis, antituberculosis drug regimen, and additional medications, and outpatients receiving treatment at the outpatient installation of Pindad General Hospital, Bandung. The exclusion criteria included patients receiving second-line antituberculosis drugs for multidrug-resistant or drug-resistant tuberculosis (MDR-TB), as these patients receive treatment regimens that differ from standard first-line antituberculosis therapy and may affect the evaluation of drug use (WHO, 2022). Patients with incomplete, illegible, or unverifiable medical record or prescription data were also excluded because incomplete data may lead to inaccuracies in drug-use assessment and reduce the validity of the study findings (Ministry of Health of the Republic of Indonesia, 2024). In addition, patients who were not registered in the SITB of Pindad General Hospital, Bandung, during the study period were excluded because their diagnosis and treatment status could not be verified through the TB program recording system, thereby affecting the accuracy of the research data (Ministry of Health of the Republic of Indonesia, 2024).

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 4 | Number 3 | September 2026 |

Data collection was conducted using secondary data. The process began with requesting permission from the head of the outpatient installation at Pindad General Hospital, Bandung, followed by tracing patient identities from prescriptions to obtain a list of TB patients. The researchers then identified TB patient visit data during the study period and transferred the data of the 30 samples into a research worksheet for further processing. Data analysis was performed descriptively by examining the distribution of sex, age, prescribed medications, drug components, additional medications, treatment duration, treatment category, and treatment outcomes. The analysis focused on the distribution and percentage of each research variable. The data were processed using descriptive statistics in SPSS and presented in the form of percentage tables.

3. Results And Discussions

a. Result

This study was conducted at the outpatient installation of Pindad General Hospital, Bandung, with a sample size of 30 TB patients. Data collection aimed to determine the characteristics of pulmonary TB patients at the outpatient installation of Pindad General Hospital, Bandung, during the period of March 2026 to April 2026.

Characteristics of TB patients based on a sample of 30 TB patients

Table 1. Characteristics of TB Patients

No.	Patient Code	Age	Sex	Prescribed Drug	Drug Component	Additional Medication	Duration of Treatment
1.	P1	5 years	M	Nr/2FDC pediatric tablet, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH), in pediatric dosage	Rx/Apyalys syrup (multivitamin/supplement)	Month 7 (diagnosed with pulmonary TB)
2.	P2	35 years	F	Nr/2FDC daily dose, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH)	Rx/Vitamin B6 10 mg tablet	Month 9 (diagnosed with extrapulmonary TB, perianal region)
3.	P3	26 years	M	Nr/2FDC daily dose, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH)	Rx/Vitamin B6 10 mg Tablet	Month 6 (diagnosed with clinical pulmonary TB)
4.	P4	30 years	M	Nr/2FDC daily dose, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH)	Rx/Vitamin B6 10 mg Tablet	Month 6 (diagnosed with clinical pulmonary TB)

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers

International Journal of Health Sciences (IJHS)

Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index

Volume 4 | Number 3 | September 2026 |

5.	P5	33 years	M	Nr/2FDC daily dose, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH)	Rx/Vitamin B6 10 mg Tablet	Month 4 (diagnosed with cutaneous TB)
6.	P6	38 years	M	Nr/4FDC, initial phase (Health Office)	Intensive-dose combination (FDC), initial phase, generally containing rifampicin, isoniazid (RH), pyrazinamide (Z), and ethambutol (E)	Rx/Vitamin B6 10 mg Tablet; Rx/Curcuma Tab	Month 2
7.	P7	17 years	F	Nr/4FDC, initial phase (Health Office)	Intensive-dose combination (FDC), initial phase, generally containing rifampicin, isoniazid (RH), pyrazinamide (Z), and ethambutol (E)	Rx/Kurkex Tab (curcuma); Rx/Ursodeoxycholic acid 250 mg (JKN)	Month 1 (diagnosed with pulmonary TB)
8.	P8	43 years	M	Nr/2FDC daily dose, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH)	Rx/Vitamin B6 10 mg Tablet; Rx/Meloxicam 15 mg tab	Month 3 (diagnosed with bacteriologically confirmed pulmonary TB and moderate persistent asthma)
9.	P9	17 years	F	Nr/4FDC, initial phase (Health Office)	Intensive-dose combination (FDC), initial phase, generally containing rifampicin, isoniazid (RH), pyrazinamide (Z), and ethambutol (E)	Rx/Curcuma Tab	Month 1 (diagnosed with TB lymphadenitis)
10.	P10	53 years	F	Nr/2FDC adult daily dose, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH)	Rx/Vitamin B6 10 mg Tablet	Month 5
11.	P11	4 years	M	Nr/3FDC pediatric tablet, initial phase (Health Office)	Intensive-dose combination (FDC), initial phase, generally containing rifampicin, isoniazid (RH), and pyrazinamide (Z)	Rx/Sanbe Kids Emulsion Syrup	Month 1
12.	P12	4 years	M	Nr/3FDC pediatric tablet, initial phase (Health Office)	Intensive-dose combination (FDC), initial phase, generally containing rifampicin, isoniazid (RH), and pyrazinamide (Z)	Rx/Sanbe Kids Emulsion Syrup; Rx/Sirplus Syr	Month 1
13.	P13	6 years	M	Nr/2FDC pediatric tablet, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH), in pediatric dosage	Rx/Sanbe Kids Emulsion Syrup	Month 7

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers

International Journal of Health Sciences (IJHS)

Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index

Volume 4 | Number 3 | September 2026 |

14.	P14	4 years	M	Nr/3FDC pediatric tablet, initial phase (Health Office)	Intensive-dose combination (FDC), initial phase, generally containing rifampicin, isoniazid (RH), and pyrazinamide (Z)	Rx/Sanbe Kids Emulsion Syrup	Month 1
15.	P15	4 years	M	Nr/3FDC pediatric tablet, initial phase (Health Office)	Intensive-dose combination (FDC), initial phase, generally containing rifampicin, isoniazid (RH), and pyrazinamide (Z)	Rx/Sanbe Kids Emulsion Syrup; Rx/Sirplus Syr	Month 1
16.	P16	6 years	M	Nr/2FDC pediatric tablet, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH), in pediatric dosage	Rx/Sanbe Kids Emulsion Syrup	Month 7
17.	P17	27 years	M	Nr/4FDC, initial phase (Health Office)	Intensive-dose combination (FDC), initial phase, generally containing rifampicin, isoniazid (RH), pyrazinamide (Z), and ethambutol (E)	Rx/Vitamin B6 10 mg Tablet	Month 2
18.	P18	20 years	M	Nr/2FDC adult daily dose, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH)	Rx/Kurkex Tab (curcuma); Rx/Vitamin B6 10 mg Tablet	Month 3
19.	P19	28 years	F	Nr/2FDC adult daily dose, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH)	Rx/Vitamin B6 25 mg; Rx/Curcuma Tab Sanbe	Month 7
20.	P20	7 years	F	Nr/2FDC pediatric tablet, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH), in pediatric dosage	Rx/Apyalys syrup	Month 5
21.	P21	10 months	F	Nr/3FDC pediatric tablet, initial phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH), in pediatric dosage	Rx/Elkana Syr	Month 2
22.	P22	1 year	F	Nr/2FDC pediatric tablet, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH), in pediatric dosage	Rx/Sirplus Syr; Rx/Zamel Drop	Month 3 (diagnosed with pulmonary TB)

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers

International Journal of Health Sciences (IJHS)

Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index

Volume 4 | Number 3 | September 2026 |

23.	P23	12 years	M	Nr/2FDC adult daily dose, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH)	Rx/Vitamin B Complex Tab	Month 3 (diagnosed with TB lymphadenitis)
24.	P24	14 years	F	Rx/2FDC adult daily dose, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH)	Rx/Sanbe Kids Emulsion Syrup	Month 4 (diagnosed with pulmonary TB)
25.	P25	1 year	M	Nr/2FDC pediatric tablet, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH), in pediatric dosage		Month 6 (diagnosed with pulmonary TB)
26.	P26	3 years	M	Nr/2FDC pediatric tablet, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH), in pediatric dosage	Rx/Sirplus Syr Stroberi; Rx/Elkana Syr	Month 5 (diagnosed with pulmonary TB)
27.	P27	1 year	F	Nr/2FDC pediatric tablet, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH), in pediatric dosage	Rx/Sirplus Syr; Rx/Sanbe Plex Drops	Month 6 (diagnosed with pulmonary TB)
28.	P28	6 years	M	Nr/2FDC pediatric tablet, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH), in pediatric dosage	Rx/Sanbe Kids Emulsion Syrup	Month 6 (diagnosed with pulmonary TB)
29.	P29	44 years	M	Nr/2FDC adult daily dose, continuation phase (Health Office)	Fixed-dose combination (FDC), continuation phase, generally containing rifampicin and isoniazid (RH)	Rx/Vitamin B6 25 mg	Month 5 (TB mastitis)
30.	P30	38 years	M	Nr/4FDC, initial phase (Health Office)	Intensive-dose combination (FDC), initial phase, generally containing rifampicin, isoniazid (RH), pyrazinamide (Z), and ethambutol (E)	Rx/Vitamin B6 10 mg; Rx/Diarvit Syr	Month 1 (TB pleuritis)

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers

International Journal of Health Sciences (IJHS)

Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index

Volume 4 | Number 3 | September 2026 |

Based on Table 1, of the total 30 recorded samples, patient characteristics can be categorized as follows:

Sex: The majority of patients were male, totaling 19 people (63%), while female patients numbered 11 (37%). Age Range: Patients were dominated by the pediatric age group (0–10 years), totaling 14 people (47%); the 11–20-year age group ranked second with 5 people (16.7%); the 21–30-year age group had 4 people (13.3%); the 31–40-year age group had 4 people (13.3%); and the 41–50-year age group

had 2 people (6.7%), while the 51–60-year age group had only 1 person (3.3%). Specific Age Variation: The sample included a very wide age range, from an infant aged 10 months to an elderly patient aged 53 years.

Comorbid Conditions: Some patients had other health conditions, such as persistent asthma. Treatment Status: All 30 patients (100%) were recorded with an "Incomplete" or cohort-study status, as they were still undergoing treatment, either in the initial or continuation phase. Overall, this table illustrates a heterogeneous population of TB patients in terms of age and TB type, although most patients were still in the continuation phase of treatment using a fixed-dose combination (FDC) regimen.

Patient characteristics based on the variables of sex and age group.

Table 2. Distribution of Patients by Sex

Sex	Frequency	Percentage
Female	11	36.7%
Male	19	63.3%
Total	30	100%

Based on Table 2, of the 30 patient records, male patients were predominant, numbering 19 (63.3%), while female patients numbered 11 (36.7%). This difference in proportion indicates a higher tendency of vulnerability among males at the outpatient installation of Pindad General Hospital, Bandung.

Research conducted by Wadjah N. (2012) in Banggai and by Pertiwi RN9 in Jakarta similarly reported that the number of male patients was higher than that of female patients. This is consistent with the study by Dotulong (2015), which found that another possible contributing factor is that women are known to be more compliant in attending health services for treatment; in addition, this may also be due to men having more active outside-the-home activities that involve interacting with more people, which is a risk factor for increased TB transmission.

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers

International Journal of Health Sciences (IJHS)

Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index

Volume 4 | Number 3 | September 2026 |

Table 3. Distribution of Patients by Age Group

Patient Age Interval	Frequency	Percentage
0–10 years	14	46.7%
11–20 years	5	16.7%
21–30 years	4	13.3%
31–40 years	4	13.3%
41–50 years	2	6.7%
51–60 years	1	3.3%
Total	30	100%

Table 3 shows that the 0–10-year age group had the highest number of patients, 14 people (46.7%). The 11–20-year age group ranked second with 5 people (16.7%); this group represents a productive age with a very active level of interpersonal interaction. The 21–30-year age group had 4 people (13.3%). The 31–40-year age group had 4 people (13.3%). The 41–50-year age group had

2 people (6.7%), and the 51–60-year age group had only 1 person (3.3%). This table is very useful for determining targets for medical intervention or health policy, since 46.7% of patients were children aged 0–10 years; health facilities or services provided should therefore focus more on pediatric needs. This demonstrates that identifying infection in adults is crucial, as they serve as a source of transmission to more vulnerable family members, such as children.

According to Baun et al. (2023), TB transmission in children largely originates from close contact with adult TB patients within the household, particularly under conditions of poor ventilation, high household density, and low socioeconomic status.

Table 4. Distribution of Treatment Category 1

Treatment Category	Frequency	Percentage
Initial Phase (Intensive)	10	33.3%
Continuation Phase	20	66.7%
Total	30	100%

Based on Table 4 on the distribution of treatment categories, from the data of patients undergoing tuberculosis (TB) treatment at Pindad General Hospital, Bandung:

b. Discussion

1. Treatment Category 1

   Initial (Intensive) Phase: 10 patients (33.3%).

   Continuation Phase: 20 patients (66.7%).

   The number of patients in the continuation phase shows that most patients successfully completed the first two months of treatment, a critical period for TB therapy success. According to Perwitasari et al. (2022), patient success in reaching the continuation phase is influenced by medication adherence, monitoring by health

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers

International Journal of Health Sciences (IJHS)

Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index

Volume 4 | Number 3 | September 2026 |

workers, family support, and the use of simple therapy regimens such as Fixed Dose Combination (FDC). FDC use is known to improve patient adherence by reducing the number of tablets that must be taken and lowering the risk of medication errors.

2. Treatment Stages and Drug Types (FDC)

Patients were given antituberculosis drugs (OAT) in *Fixed Dose Combination* (FDC) form:

- Initial (Intensive) Phase: Using 4FDC (Rifampicin, Isoniazid, Pyrazinamide, Ethambutol) for adults or 3FDC for children (Rifampicin, Isoniazid, Pyrazinamide). Examples include patients MAS (17 years) and NHN (4 years).
- Continuation Phase: Using 2FDC, generally containing Rifampicin and Isoniazid (RH). An example is patient ZLD (5 years), who was in the 7th month of treatment.

3. Additional Medications and Supplements

Nearly all patients received supportive therapy, including:

- **Vitamin B6**: Administered to prevent peripheral neuropathy (damage to peripheral nerves outside the brain and spinal cord) caused by isoniazid (WHO, 2022).
- **Pediatric Supplements/Multivitamins**: Such as Apialys syrup, Sanbe Kids Emulsion, Elkana, and Zamel drops, used to meet children's vitamin and mineral needs during TB treatment (Ministry of Health of the Republic of Indonesia, 2023). These supplements can help improve nutritional status, support the immune system, and aid recovery. However, they do not replace antituberculosis drug therapy as the primary treatment (WHO, 2022).
- **Symptomatic/Supportive Medications**: Curcuma (to stimulate appetite and support liver health), or hepatoprotectors, used to help maintain liver function or manage liver damage caused by the side effects of antituberculosis drugs such as rifampicin, isoniazid, and pyrazinamide (Ministry of Health of the Republic of Indonesia, 2023). Meloxicam (analgesic), used to relieve joint pain or inflammation caused by antituberculosis drugs when joint pain occurs as a side effect of pyrazinamide use (WHO, 2022). Ursodeoxycholic acid (a choleretic agent), a drug that stimulates production and improves the flow of bile, is used in relation to side effects, as this drug often causes liver dysfunction that can sometimes lead to bile accumulation (Nur et al., 2024).

4. Conclusion

Based on the results of the analysis of the distribution of tuberculosis patient characteristics:

1. Prescription screening at the outpatient installation of Pindad General Hospital, Bandung, during the period of March 2026 to April 2026, with a randomly selected sample of 30 patients, indicates that the 0–10-year age group was the largest,

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers

International Journal of Health Sciences (IJHS)

Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index

Volume 4 | Number 3 | September 2026 |

comprising 14 people (47%), and that male patients were more dominant, numbering 19 people (63%). For treatment categories, most patients (67%) were in the Initial (Intensive) phase, while the remaining 33% were in the Continuation phase; patients' antituberculosis drug regimens used a fixed-dose combination (FDC).

2. The continuation phase (2FDC) was mostly given to patients who had entered the 3rd to 9th month of treatment, while the intensive/initial phase (4FDC for adults or 3FDC for children) was given to patients who had just started treatment. Nearly all patients received additional supplements, the most common being Vitamin B6 (to prevent nausea and vomiting side effects caused by isoniazid), Curcuma (for appetite/liver function), and various types of multivitamin syrups for pediatric patients.
3. The diagnoses experienced by patients were quite varied, including pulmonary TB (most common), TB lymphadenitis, extrapulmonary TB, and TB pleuritis.
4. The recovery status of all 30 sampled patients (100%) was recorded as “Incomplete” or as part of a cohort study, since they were still undergoing active treatment, either in the initial or continuation phase.

Recommendations

1. For the Pharmacy Installation

   The pharmacy installation is expected to continue ensuring the availability of antituberculosis drugs in Fixed-Dose Combination (FDC) form and to conduct regular prescription screening to ensure the accuracy of drugs, dosages, and treatment regimens in accordance with the National Guidelines for Tuberculosis Control.

2. For Future Researchers

   Future research is recommended to not only describe patient characteristics and treatment categories but also evaluate treatment outcomes, patient adherence levels, the incidence of antituberculosis drug side effects, and the rationality of drug use based on the accuracy of indication, drug, dosage, and duration of therapy, using a larger sample size

5. Compliance with ethical standards

Acknowledgements

The authors would like to express their sincere gratitude to Pindad General Hospital, Bandung, particularly the Outpatient Installation and Pharmacy Installation, for their support and assistance in providing access to the data required for this study. The authors also thank the Pharmacy Study Program, Politeknik Piksi Ganesha, for the academic support and guidance provided throughout the research and preparation of this manuscript.

Disclosure of conflict of interest

The authors declare that there is no conflict of interest regarding the research, authorship, and/or publication of this article. The study was conducted independently, and no financial or personal relationships influenced the research process or the interpretation of the results.

Statement of informed consent

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers

International Journal of Health Sciences (IJHS)

Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index

Volume 4 | Number 3 | September 2026 |

This study used retrospective secondary data obtained from patient prescriptions and tuberculosis treatment records. No direct intervention, interview, or contact with patients was conducted. Patient confidentiality was maintained by using coded and anonymized data, and no personally identifiable information was disclosed in this manuscript. Therefore, individual informed consent was not required for the analysis of anonymized secondary data, subject to the applicable institutional policies and ethical requirements.

References

1. Baun, A. H., Picauly, I., & Paun, R. (2023). Risk factor analysis of tuberculosis incidence in children in Kupang City. Public Health Risk Assessment Journal, 1(1).
2. Dotulong, J. F., Sapulele, M. R., & Kandou, G. D. (2015). The relationship between risk factors of age, sex, and residential density with the incidence of pulmonary TB in Wori Village, Wori Subdistrict. Jurnal Kedokteran Komunitas dan Tropik, 3(2), 57–65.
3. West Java Provincial Health Office. (2024). Tuberculosis Data of West Java Province 2024.
4. Bandung: West Java Provincial Health Office; 2024. IJID / RSPI Sulianti Saroso. Profile of Pulmonary Tuberculosis in Children.
5. Indonesian Pulmonologist Association. (2021). Tuberculosis: Guidelines for Diagnosis and Management in Indonesia. Jakarta: PDPI; 2021.
6. Jurnal Farmasi IKIFA. (2024). Evaluation of Antituberculosis Drug Use in Pulmonary TB Patients at Punggur Community Health Center.
7. Ministry of Health of the Republic of Indonesia. (2024). National Clinical Practice Guidelines (PNPK) for Tuberculosis Management.
8. Ministry of Health of the Republic of Indonesia. (2023). Technical Guidelines for the Management of Tuberculosis in Children and Adolescents.
9. Ministry of Health of the Republic of Indonesia. (2023). Technical Guidelines for Tuberculosis Management in Indonesia.
10. Nur, M. H., Lestari, E. S., Budiono, B. P., Prasetyo, S. A., & Muniroh, M. (2024). Exploring the effects of ursodeoxycholic acid-probiotic combination on Lactobacillus and liver enzyme levels for cholestatis management: An experimental study.
11. PAHO/WHO. Tuberculosis resurges as top infectious disease killer. November 2024.
12. Perwitasari, D. A., Setiawan, D., Nguyen, T., Safaria, T., Nurulita, N. A., & Wiraagni, I. A. (2022). Investigating the relationship between knowledge and hepatotoxic effects with medication adherence of TB patients in Banyumas Regency, Indonesia. International Journal of Clinical Practice, 2022, 4044530.

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers

International Journal of Health Sciences (IJHS)

Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index

Volume 4 | Number 3 | September 2026 |

13. PMC / PubMed. Treatment outcomes of pulmonary TB in adults in Indonesia.
14.
15. Sugiyono. (2022). Quantitative, Qualitative, and R&D Research Methods (2nd ed., 29th printing). Bandung: Alfabeta.
16. Sugiyono. (2019). Qualitative and R&D Research Methods. Alfabeta. Source: Rumah Jurnal UIN Alauddin Makassar.