



## Description of Methadone Dose Usage of Methadone Maintenance Therapy Program Patients

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### Abstract

Methadone treatment is the most common treatment for opioid dependence, methadone replaces opioids with an adjusted dose. The dose is gradually reduced over a period of time, and you can eventually stop taking methadone. The purpose of this study was to determine the dose of methadone given to patients in the Methadone Maintenance Therapy Program (PTRM) in the Greater Tangerang area from January to December 2023. Methadone clinics in Greater Tangerang are Cibodasari Health Center, Cipondoh Health Center, and Ciputat Health Center. This study was conducted using a cross-sectional method with a descriptive approach. Based on a survey of 33 patients receiving methadone maintenance therapy, the characteristics of the patients were as follows: 30 men (91%), 3 women (9%), 32 people (97%) aged 25 to 45 years, and 46 years - 55 years as many as 1 person (3%), junior high school education 6 people (18%), high school education 19 people (58%), bachelor's degree qualification 5 people (15%) university 3 people (9%), married 24 people (73%), 4 people unmarried (12%) and 5 people married (15%). The initial maintenance dose for treatment is 15 to 30 mg per day. The minimum maintenance dose is 0.7 mg per day. The highest maintenance dose is 210 mg per day. The average maintenance dose is 76.13 mg per day. Based on the results of this study, it can be concluded that 33 patients who received therapy were in accordance with the PTRM guidelines with maintenance doses usually ranging from 60 to 120 mg / day.

## Introduction

Abuse of narcotics, alcohol, psychotropic substances, and other addictive substances (NAPZA) and the transmission of HIV/AIDS are major problems that have become global problems and are increasing rapidly in Asia, including Indonesia. Although it is difficult to know for sure how many NAPZA users there are in Indonesia, the National Narcotics Agency (BNN) said that the number of NAPZA users continues to increase. Based on estimates made by the BNN in 2019, an estimated 4.5 million people in Indonesia have a history of drug use (Firdausyan et al., 2023; Parapaga, 2023; Sulastiana & SIP, 2021; DELLY et al., 2022).

One of the negative impacts of drug use is the transmission of HIV/AIDS among injecting drug users. According to the report of the Indonesian Ministry of Health, until September 2022 the cumulative number of AIDS cases reported was 36,665 people out of 3,355,772 people tested for HIV, and as many as 30,130 people received ARV treatment from 476 districts/cities in 34 provinces that reported. Of the AIDS cases, 71% were men, and 29% were women. As many as 0.8% of AIDS cases out of 36,665 cases were injecting drug users.

Injecting drug use is the second highest risk factor after sexual transmission. The number of injecting drug users (IDUs) is more susceptible to disease transmission, including HIV/AIDS (Strathdee & Sherman, 2003). Injecting drug users are at risk of contracting hepatitis, tuberculosis, and HIV/AIDS in two ways, namely through risky sexual behavior and the use of used syringes (Amirus, 2015; Luawo, 2023).

Reducing the adverse effects of injectable opiate use is necessary. One of the activities is a maintenance therapy program by providing Methadone in liquid form. PTRM is a substitution therapy, which means replacing the use of substances such as morphine or heroin (Maftuhah et al., 2018).

In Indonesia, MDR-PTRM is part of the national effort to control and prevent HIV/AIDS. It is known as a harm reduction or damage strategy. Most patients use one or more psychoactive substances, although Methadone Maintenance Therapy (TRM) is intended to treat opioid dependence (Rahmawati et al., 2016; Ng et al., 2023; Mahu et al., 2021; Mielau et al., 2021). To reduce the side effects of methadone, patients are given medication to overcome the side effects they experience, and they are counseled to report these side effects to MDR-PTRM officers. To prevent withdrawal symptoms known as sakaw, methadone is given gradually with a dose adjusted to methadone, which helps users stop using heroin. Furthermore, the dose is gradually reduced over a certain period of time until finally use can be stopped. The methadone retention value can be used to measure the success of substitution therapy for drug addicts. Patients who use drugs are advised to receive an initial dose of between 15 and 30 mg for the first three days. Patients who use drugs then enter the stabilization phase. The goal of the stabilization phase is to gradually increase the dose from the initial dose. After entering the maintenance phase, it can last for years until the patient's behavior stabilizes and the dose must be monitored daily depending on the patient's condition (Nuramadani et al., 2021).

## Methods

The type of research used is non-experimental research because it does not interact with patients. This study uses a descriptive research type by analyzing data retrospectively. PTRM patient data was taken from the methadone clinic at the Cibodasari Health Center, Cipondoh Health Center, and Ciputat Health Center in 2023 which were listed in the patient's medical record data.

## Result and Discussion

This study was conducted at PTRM in Greater Tangerang. Patients who met the inclusion criteria for this study were those undergoing methadone maintenance therapy programs at several health centers in Greater Tangerang, namely Ciboidasari Health Center, Cipondoh Health Center, and Ciputat Tangerang Pieriodie Health Center from January to December 2023. These patients have the following characteristics:

### Patient characteristics

Table 1. Characteristics of Methadone Maintenance Therapy Program Patients

Information	Amount	Presentation
Age		
17 - 25 years		0 %
25 - 45 years	32	97%
46 - 55 years	1	3 %
Gender		
Man	30	91%
Woman	3	9 %
Education		

SD		0 %
JUNIOR HIGH SCHOOL	6	18 %
SENIOR HIGH SCHOOL	19	58%
Diploma	5	15%
Bachelor	3	9 %
Status		
Marry	24	73%
Bachelor	4	12%
Widower/widow	5	15%

Table 1 shows the number of patients undergoing methadone maintenance therapy programs in 2023 by age, with the majority of 32 people (97%) in the age range of 25 to 45 years. This is due to the fact that this age range is the age range from adolescence to adulthood. At this age, many changes are experienced by a person, starting from biological changes related to changes in physical appearance and hormones. Significant hormonal changes can make adolescents more sensitive and unstable in controlling their emotions, even anxious. Some adolescents use illegal drugs to cope with this problem. Adults are at risk of using drugs due to mental health conditions such as depression. Other social risk factors such as social isolation, loss, financial problems, and lack of social support are also reasons why adult patients use drugs.

The number of patients undergoing methadone maintenance therapy programs in 2023 is seen based on gender characteristics, 30 patients (91%) are male. Referring to the research journal of Gustiawan et al. (2021) shows that the largest gender is male, with 14 respondents (100%). Social factors greatly influence the onset of drug abuse, especially for men. At first, they only wanted to try it with school friends or friends in their neighborhood, but the desire to consume drugs increased so that they eventually became drug addicts (Sihotang, 2020; Maula, 2019).

The number of patients undergoing methadone maintenance therapy programs in 2023 is seen based on educational characteristics, the most of which is high school, totaling 19 people (58%). Research by (Risnawati & Astuti, 2015) supports the results of this study, which shows that most respondents are high school graduates with 84.1%, while respondents with higher education are only 15.9%. Research by (Ganason et al., 2021) shows that most respondents are high school graduates with 65.1%, while college graduates with 8.5 percent and no education with 2 percent. (Mirowsky & Ross, 2015) stated that education enables the elimination of unhealthy lifestyles, such as drug abuse. A person's health depends on how aware they are of the risks of an unhealthy lifestyle. Overcoming it requires knowledge, critical analysis, strategic thinking that is oriented towards the future, the freedom to make your own decisions, and independence. This ability is obtained through education, both directly and indirectly, through the encouragement to control yourself. Educated people are usually healthier. Many studies have shown that prescription drug abuse is associated with poor physical and mental health.

### **Methadone Use Overview**

Methadone is one of the opiate replacement therapies needed by opiate addicts to control their addictive behavior and as an effort to reduce the negative impact of HIV/AIDS transmission.

Table 2. Overview of Initial Dose Use of Mietadoin

<b>Initial dose of Methadone</b>	<b>Frequency</b>	<b>Percentage</b>
15 mg/day	1	3 %
20 mg/day	4	12%
25 mg/day	26	79%

30 mg/day	2	6 %
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Table 2 shows that of the 33 people studied, the first dose they were given, or the first dose they received, was 25 mg per day. For 26 people, or 79 percent of the study, the initial dose for all patients, which ranged between 15 and 30 mg per day, was in line with the guidelines for methadone maintenance therapy.

Table 3. Overview of the Use of Methadone Maintenance Dosage

Information	Dosage mg/Day
Smallest Maintenance Dose	0.7 mg/Day
Largest Maintenance Dose	210 mg/Day
Average Maintenance Dose	76.13 mg/Day

According to the MMT manual, the maintenance dose usually ranges between 60 and 120 mg per day. This dose should be monitored and adjusted regularly every day depending on the patient's condition. Dose adjustments are also influenced by many other social influences. This phase can last for years until behavior stabilizes in work, social life, and emotions.

The doctor should check the patient daily after the first dose for three days if they show signs of intoxication (poisoning), such as vomiting, breathing problems, and seizures. If they show these signs, the doctor will decide the next dose to be given. The doctor re-evaluates the patient at least once a week in the first month of therapy, and then every month. Increasing the dose should always be followed by a re-evaluation of the patient. Factors such as intensity, withdrawal symptoms, intoxication, use of additional drugs, side effects, sleep and appetite, and patient compliance with the given dose are assessed.

The patient first signs the pharmacy registration form according to the date and time that the officer has recorded before starting the methadone drug preparation process. Take a glass and add the methadone syrup dose according to the prescription. Turn the drug pump to the number recommended by the doctor to determine the methadone dose. Pull the pump up and push it down until the methadone is completely released according to the requested dose. Next, enter the syrup given to the patient. Provide water in the same glass for the patient to drink again after the medicine is completely drunk. Make sure the patient drinks the methadone medicine completely.

Methadone can be discontinued slowly. Withdrawal symptoms can be reduced by gradually reducing the dose of methadone. Withdrawal occurs for two reasons. First, methadone is underdosed, meaning a person is not taking enough of it. Second, methadone does not counteract the withdrawal of other opioids. This causes the body to stop using other drugs. Second, methadone withdrawal, which can occur when the body is dependent on the drug. Patients who are stable, patients who have not used heroin for at least six months, and patients who are able to work and have adequate life support are reasons why methadone can be discontinued. taken at the highest dose of 10%.

Methadone can be discontinued slowly. Gradually reducing the dose of methadone can cause side effects. The recommended dose reduction is every two weeks. It is very important to monitor the patient's mental development. The dose can be increased again if the patient's emotional condition is unstable. Dose reduction is not the only indicator of the success of PTRM. There is also a decrease in the number of patient crimes, better behavioral changes, and damage from needle use.

## Conclusion

The results of the study, called "Description of Methadone Maintenance Dose Use (PTRM) in Greater Tangerang" showed that 33 patients receiving Methadone Maintenance Therapy received an initial dose of 15–30 mg/day. The smallest maintenance dose was 0.7 mg/day, the

highest maintenance dose was 210 mg/day, and the average maintenance dose was 76.1 mg/day. The Methadone dose in PTRM patients is in accordance with the PTRM guidelines.

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