

## **Relationship between the duration of injectable contraceptive Depo Medroxy Progesterone Acetat (DMPA) With the Occurrence of Amenorrhea in Family Planning Acceptors at the Pratama Delima Rahayu Clinic, Sragen**

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### **ABSTRACT**

Amenorrhea is a condition where a person does not experience menstruation for 3 to 6 months in a row. This research aims to analyze the relationship between length of use of injectable contraceptives Depo Medroxy Progesterone Acetat (DMPA) with the occurrence of amenorrhea in family planning acceptors at the Pratama Delima Rahayu Clinic, Sragen Indonesia. This type of analytical survey research uses a cross sectional approach. The sampling technique for this research is to use a total sampling technique, namely the entire population. The results of the research show that the length of use of the Depo Medroxy Progesterone Acetat (DMPA) contraceptive injection has a significant relationship with the occurrence of amenorrhea in contraceptive acceptors at the Pratama Delima Rahayu Sragen Clinic with a probability value of  $0.001 < 0.05$ . The conclusion from this research is that the longer you use DMPA injection contraceptives, the longer you will experience menstrual disorders, one of which is amenorrhea.

#### **Keywords :**

Amenorrhea, Acceptor, Family Planning, DMPA Injection

## 1. INTRODUCTION

The ever-increasing population explosion results in an increasingly rapid population growth rate. This is certainly an important and worrying problem for countries in the world, including Indonesia. The large uncontrolled population affects various aspects of life, both economic and social, especially improving the quality of life or the quality of the population in terms of human resources (Dewanti, 2020). Based on World Population Prospect 2022, Today's global population is three times larger than it was in the mid-twentieth century.

It is estimated that the world population will be around 8.0 billion by mid-November 2022. In 2059, it is estimated that the world population could reach 10 billion (Togbeet al., 2022). Meanwhile, based on estimates in 2021, Indonesia's population is 272,230,000 people, consisting of 137,520,000 male residents and 134,710,000 female residents (Armayanti, 2022). Population density in Indonesia reaches 141 people per km<sup>2</sup> compared to its land area of 1.9 million km<sup>2</sup> (BPS, 2021). This population density has resulted in a population explosion which has an impact on the quality of health.

Therefore, the Indonesian government has an important role in improving the quality of population health through the Family Planning (KB) program which started in 1968 by establishing the National Family Planning Institute (LKBN) which later in its development became the National Family Planning Coordinating Board (BKKBN) which was issued based on Decree of the President of the Republic of Indonesia No. 8 of 1970. The aim of the National Family Planning movement is to become the basis for realizing a prosperous society through birth control and population growth in Indonesia (BKKBN, 2019).

According to World Health Organization (WHO, 2020) family planning is an action that can help married couples in spacing births. One type of effective contraception that is an option and is part of the current National Family Planning Program is injectable birth control. Injectable contraception is a contraceptive device or drug that is inserted or injected into the body for a certain period of time. Then it enters the blood vessels and is absorbed little by little by the body and can prevent pregnancy. Injectable contraception is very effective in preventing pregnancy by around 99% to 100% (Melyani, 2020).

According to the results of the 2021 family data collection, BKKBN, shows that the prevalence rate of PUS for family planning participants in Indonesia in 2021 is 57.4%. The pattern of choosing the type of modern contraceptive method in 2021 shows that the majority of acceptors choose to use injections at 59.9%, followed by pills at 15.8%. This pattern occurs every year, where family planning participants prefer short-term contraceptive methods compared to long-term contraceptive methods (MKJP). If we look at effectiveness, these two types of contraceptive devices/drugs/methods (injections and pills) are short-term contraceptive methods so that the level of effectiveness in controlling pregnancy is lower than long-term contraceptive methods (MKJP) (Maulidya, 2021).

Even though injectable contraception is the most popular type because of its effectiveness, this type of contraception has advantages and disadvantages. Giving injectable contraceptives for longer or more regularly every 3 months will affect estrogen in the body, causing side effects. One of the side effects of injectable contraception is menstrual disorders. Amenorrhea is the absence of menstruation for 3 consecutive months. Amenorrhea is often found with prolonged use. Amenorrhea is caused by endometrial atrophy. Prolonged or routine administration every 3 months will affect estrogen in the body so that the influence of estrogen in the body is less strong on the endometrium so that the endometrium is less than perfect (Yanti & Lamaindi, 2021).

This can also be proven from the results of research conducted by (Mastaida & Barus, 2020) using the method Analytical survey using the approach Cross Sectional which was carried out on 65 couples of childbearing age. Based on the results of the research, it was found that 27 people (41.5%) experienced contraceptive use for < 2 years, of which 23 people did not experience it (35.3%), 4 people experienced it (6.2%). Meanwhile, 38 people (58.5%) used family planning for more than 2 years, of which 6 people did not experience amenorrhea (9.2%) and 32 people experienced amenorrhea (49.1%), with a p value of 0.000. This means that there is a relationship between the use of birth control and the occurrence of amenorrhea at the Sahtama Simpang Selayang clinic in 2022.

Pratama Delima Rahayu Sragen Clinic provides family planning services including birth control pills, 1 month birth control injections and 3 month birth control injections. The data obtained in the last 2 months is that the type of birth control used is 1-month injection KB and 3-month injection KB, and no one used Pill Birth Control. In the last 2 months, there were 35 people who used 1-month injectable contraceptives, while those who used injectable contraceptives Depo Medroxy Progesterone Acetat (DMPA) as many as 112 people. The data obtained by researchers contained 6 recipients of contraceptive injections Depo Medroxy Progesterone Acetat (DMPA) who visited on July 2 2023 and from interviews it was found that 4 people (67%) experienced amenorrhea and 2 people (33%) had phlegm.

## **2. IMPLEMENTATION METHOD**

This research uses the method Analytical survey using design Cross Sectional. Analytical survey is research that tries to explore how and why this phenomenon occurs. Design Cross Sectional which aims to be faster, more practical and efficient and existing data can be utilized. The population in this study was taken from the last 2 months, namely in May and June 2023, a total of 112 patients who used injectable contraceptives. Depo Medroxy Progesterone Acetat (DMPA) at the Pratama Delima Rahayu Clinic, Sragen.

The sampling technique uses total sampling, namely the entire population of 112 people. The data source using primary data is data obtained directly by researchers using a questionnaire. The data collection tool is to use a master table which contains the identity of the acceptor, the age of the acceptor and questions about the use of injectable contraception with the occurrence of amenorrhea. The procedure for processing data in this research is through data analysis or data processing activities using data processing with a computer system, including: Collecting, Checking, Coding, Entering, Data processing. Data analysis uses univariate analysis and bivariate analysis. Univariate analysis is an analysis carried out for each variable from the research results. Bivariate analysis is an analysis carried out to determine the relationship (correlation) between the independent variable and the dependent variable. Data is analyzed using formulas chi-square or chi-square (Yuwinda, 2023).

### 3. RESULTS AND DISCUSSION

#### 3.1 Univariate Analysis

Univariate analysis is an analysis carried out for each variable from the research results (Yuwinda, 2023).

**Table 1 Characteristics of Respondents Based on Age, Parity, Education and Occupation in Injection Birth Control Depo Medroxy Progesterone Acetat (DMPA) With the Occurrence of Amenorrhea in Family Planning Acceptors at the Pratama Delima Rahayu Clinic, Sragen**

Characteristics		Frequency (F)	Presentation (%)
Age	25-35	57	50,9
	>35	55	49,1
Parity	Primipara	19	17,0
	Multiparous	93	83,0
Education	Elementary school	9	8,0
	First Middle School	60	53,6
	Senior High School	43	38,4
Work	IRT	40	35,7
	Self-employed	37	33,0
	Private sector employee	35	31,3
n = 112			

Based on table 1, it is known that of the 112 respondents (100%) there were 57 respondents (50.9%) aged 25-35 years, and 55 respondents (49.1%) aged > 35 years. And of the 112 respondents, 19 respondents (17.0%) were primiparous patients and 93 respondents (83.0%) were multiparous patients. And of the total patients (112 respondents) there were 9 respondents (8.0%) with elementary school education, 60 respondents (53.6%) with junior high school education, and 43 respondents (38.4%) with high school education. Meanwhile, the characteristics of respondents based on type of work showed that of the 112 respondents (100%), it was known that 40 respondents (35.7%) worked as domestic workers and 37 respondents (33.0%) worked as entrepreneurs and 35 respondents (31.3%) worked as a private employee.

**Table 2 Frequency Distribution of Respondents' Answers Based on Question Items Length of use of injectable birth contro lDepo Medroxy Progesterone Acetat (DMPA) With the Occurrence of Amenorrhea in Family Planning Acceptors at the Pratama Delima Rahayu Clinic, Sragen**

Statement	Of		No	
	F	%	F	%
DMPA use > 12 Months	94	83,9	18	16,1
Menstrual disorders after using DMPA	112	100	-	-
Experiencing spots /spotting last 3 months	7	6,3	105	93,8
Experiencing Amenorrhea in the last 3 months	100	89,3	12	10,7

Based on table 2, out of 112 respondents (100%), there were 94 patients who used injectable contraceptives for 3 months or DMPA > 12 months (83.9%). And 18 respondents (16.1%) used injectable contraceptives for 3 months or DMPA for 0-12 months. Of the 112 respondents, all of them experienced menstrual disorders after using injectable birth control for 3 months. While being an injectable contraceptive acceptor for 3 months, the respondent experienced spotting /spotting in the last 3 months or during the 3 month injection as many as 7 respondents (6.3%) and 105 respondents (93.8%) did not experience spots /spotting in the last 3 months. Of the 112 respondents, 100 respondents (89.3%) had not had their period at all in the last 3 months or not at all while they were family planning acceptors, and 12 respondents (10.7%) had their period in the last 3 months. During their time as 3-month injectable birth control acceptors, 112 respondents experienced amenorrhea or no menstruation for > 3 months.

**Table 3 Characteristics of Respondents Based on Length of Use of Kb Inject Depo Medroxy Progesterone Acetat (DMPA) At the Pratama Delima Rahayu Clinic, Sragen**

Duration of use of injec table birth control 3 months	Frequency	%
0-12 Months	18	16,1
>12 Months	94	83,9
Total	112	100

From the table above, it can be seen that of the 112 respondents (100%) who used DMPA injection KB for 0-12 months there were 18 respondents (16.1%) and 94 respondents (83%) used DMPA injection KB for > 12 months. .9%).

**Table 4. Incidence of Amenorrhea at Pratama Delima Rahayu Clinic, Sragen**

Occurrence of Amenorrhea	Frequency	%
Experiencing amenorrhea	100	89,3
No amenorrhea	12	10,7
Total	112	100

From the table above, it can be seen that, of the 112 respondents (100%), 100 respondents (89.3%) experienced amenorrhea and 12 respondents (10.7%) did not experience amenorrhea.

### 3.2 Bivariate Analysis

Bivariate analysis was used to determine whether there was a relationship between the length of use of injectable birth control Depo Medroxy Progesterone Acetat (DMPA) With the Occurrence of Amenorrhea in Family Planning Acceptors at the Pratama Delima Rahayu Sragen Clinic using the Test Chi Square.

**Table 5. Tabulation Length of use of injectable birth control Depo Medroxy Progesterone Acetat (DMPA) With the Occurrence of Amenorrhea in Family Planning Acceptors at the Pratama Delima Rahayu Clinic, Sragen**

Length of Use	EXPERIENCING AMENORRHEA				Total	p-value	OR
	OF		NO				
	F	%	F	%	F	%	
0-12 months	12	10,7	6	5,4	18	16,1	0,001
>12 months	88	78,6	6	5,4	94	83,9	6
Total	100	89,3	12	10,7	112	100	

Based on table 5, it is known that of the 112 respondents, there were 18 respondents (16.1%) with a duration of use of 0-12 months who experienced amenorrhea, 12 respondents (10.7%) who did not experience amenorrhea, 6 respondents (5.4%) . Meanwhile, 94 respondents (83.9) with duration of use > 12 months experienced amenorrhea, 88 respondents (78.6%) and 6 respondents (5.4%) who did not experience amenorrhea.

The resulting odds ratio (OR) value is 136. This means that the duration of using DMPA injection contraceptives 136 times influences the occurrence of amenorrhea. And test results Chi-squares hows that  $p = 0.001 < 0.05$  meaning there is a significant relationship between the duration of use of injectable contraceptives Depo Medroxy Progesterone Acetat (DMPA) with the occurrence of amenorrhea in family planning acceptors at the Pratama Delima Rahayu Clinic, Sragen.

There is a tendency that more people use DMPA birth control compared to other types of contraception such as 1-month injection contraception, birth control pills and implants. Because DMPA contraception is very effective, easy to use, safe to use during lactation or breastfeeding mothers and has no effect with other medicines. The 1-month injection contraceptive is a contraceptive device that is administered every 28 days to contraceptive acceptors. So most patients do not use this contraceptive because they feel vulnerable when the time for giving the contraceptive injection is too close and patients experience problems related to costs.

Birth control pills are rarely used because this type of contraception is prone to failure to prevent pregnancy. This is because patients are required to take birth control pills regularly or every day, if the patient forgets to take birth control pills then the patient is advised to repeat

taking birth control pills from the start. Meanwhile, implants or implants are rarely used because most patients are afraid of using birth control implants or implants.

### **3.3 Length of use of injectable birth control Depo Medroxy Progesterone Acetat (DMPA) for acceptors at the Pratama Delima Rahayu Clinic, Sragen**

Based on the results of data processing, the data obtained shows that of the 112 respondents with a duration of use of 0-12 months, there were 18 respondents (16.1%), while with a duration of use >12 months there were 94 respondents (83.9%). This contraception is more widely used because DMPA injections are easy to use, safe to use during lactation or for use by breastfeeding mothers, very effective and have no effect with other medicines (Sartika, 2019) in (Yuwinda, 2023).

This is in line with research conducted by (Mastaida & Barus, 2020) with the results of their research showing that 27 people (41.5%) who used contraception for < 2 years experienced amenorrhea, of which 23 people did not experience it (35.3%), which experienced as many as 4 people (6.2%). Meanwhile, 38 people (58.5%) used contraceptives for more than 2 years, of which 6 people did not experience amenorrhea, (9.2%) and 32 people experienced amenorrhea, (49.1%), at the Sahtama Simpang Selayang year clinic. 2022.

For 3-month injectable birth control acceptors, the longer they use the 3-month injectable contraceptive, the longer the incidence of menstruation changes to no menstruation at all. The duration of use of injectable contraceptives greatly influences the occurrence of menstrual disorders. The use of progestin injection contraception causes a hormonal imbalance with the use of progestin injections, making the endometrial wall thinner. Because the hormone estrogen is suppressed by the hormone progestin, this condition is like a pregnant person who does not have menstruation or menstruation (Hidayatun, 2017).

### **3.4 The incidence of amenorrhea when using injectable birth control Depo Medroxy Progesterone Acetat (DMPA) for family planning acceptors at the Pratama Delima Rahayu Clinic, Sragen**

Based on the results of data processing, it is known that out of 112 respondents (100%). Experience amenorrhea as many as 100 respondents (83.9%) and 12 respondents (10.7%) did not experience amenorrhea. The research conducted by researchers is in line with research conducted by (Cahyaningrum, 2023) with the title "The Effect of Injectable Contraception on the Incident of Amenorrhea". It was stated that of the 43 respondents, 25 respondents or (58.1%) experienced amenorrhea, and 18 respondents (41.9%) did not experience amenorrhea.

When using injectable contraception, DMPA is the most popular type of contraception because of its effectiveness. However, providing contraception has advantages and disadvantages. The advantages of DMPA injectable contraception are that it is easy to use, safe to use during lactation or breastfeeding mothers, very effective and has no effect with other medicines. However, giving injectable contraceptives for longer or more regularly every 3 months will affect estrogen in the body, causing side effects, one of which is irregular menstrual bleeding or what is called amenorrhea.

### **3.5 Relationship between the duration of injectable contraceptive Depo Medroxy Progesterone Acetat (DMPA) With the Occurrence of Amenorrhea in Family Planning Acceptors at the Pratama Delima Rahayu Clinic, Sragen**

The results of statistical tests using the Chi square test show that the p-value is  $0.001 < 0.05$ , meaning that there is a significant relationship between the length of use of injectable contraceptives. Depo Medroxy Progesterone Acetat (DMPA) with the occurrence of amenorrhea in family planning acceptors at the Pratama Delima Rahayu Clinic, Sragen. In this case, it can be stated that the research hypothesis is accepted, namely  $H_a$  is accepted and  $H_o$  is rejected, thus the research hypothesis has been tested for truth. Cross tabulation results of the relationship between injectable contraceptive use Depo Medroxy Progesterone Acetat (DMPA) Of the 112 respondents, it was found that 18 respondents (16.1%) used injectable contraceptives with a duration of use of 0-12 months, 12 respondents (10.7%) experienced amenorrhea and 6 respondents (5) did not experience amenorrhea. .4%). Meanwhile, 94 respondents (83.9%) used contraceptive injections for 3 months  $> 12$  months, of which 88 respondents (78.6%) experienced amenorrhea and 6 respondents (5.4%) did not experience amenorrhea.

Based on the results of this study, it shows that the longer the DMPA injection contraceptive is used, the greater the possibility of experiencing amenorrhea. This is caused by the hormones contained in the birth control injection. This is in line with research conducted by (Mastaida & Barus, 2020) with the results of their research showing that 27 people (41.5%) who used contraception for  $< 2$  years experienced amenorrhea, of which 23 people did not experience it (35.3%) , which experienced as many as 4 people (6.2%). Meanwhile, 38 people (58.5%) used family planning for more than 2 years, of which 6 people did not experience amenorrhea (9.2%) and 32 people experienced amenorrhea (49.1%), with a p value of 0.000. This means that there is a relationship between the use of birth control and the occurrence of amenorrhea at the Sahtama Simpang Selayang clinic in 2022.

Using contraceptive injections can cause menstrual disorders, one of which is amenorrhea. The incidence of cycle disorders when using injections for 3 months, namely amenorrhea changes to no menstruation at all after using injection contraception. Menstrual disorders in the form of amenorrhea are caused by the progesterone in the DMPA component suppressing LH so that the endometrium becomes shallow and atrophic with inactive glands.

Progestin injection contraception causes a hormonal imbalance with the use of progestin injections, making the endometrial wall thinner. Because the hormone estrogen is suppressed by the hormone progestin, this condition is like a pregnant person who does not have menstruation or menstruation (Hidayatun, 2017). This is in line with research conducted by (Lieskusumastuti Anita Dewi, 2020), with the results of statistical tests on the length of use of injectable contraceptives of 3 months with the occurrence of spotting through the test who squire known to  $X^2$  calculate 9,374 withp-value 0.002 and statistical test results for the duration of injectable contraceptive use of 3 months with the incidence of amenorrhea through the tests pend square is known as  $X^2$  count 4,730 withp-value 0.03. Where is the value  $p < 0.05$ , which means that the longer the acceptor uses injectable contraception for 3 months, the more the incident occurs spotting size and the longer the acceptor uses injectable birth control for 3 months, the greater the incidence amenorrhea. All respondents in the research used injectable contraceptives because they are quite easy and effective to use, have few side effects and can be used in women aged over 35 years up to perimenopause.



#### 4. CONCLUSION

The duration of use of injectable contraceptives was 3 months out of 112 respondents with the duration of use being 0-12 months as many as 18 respondents (16.1%) while the duration of use > 12 months was 94 respondents (83.9%). Of the 3-month contraceptive injection acceptors, of the 112 respondents who experienced amenorrhea, 100 respondents (89.3%) and those who did not experience amenorrhea were 12 respondents (10.7%). Test results Chi-square There is a significant relationship between the duration of injectable contraceptive use Depo Medroxy Progesterone Acetat (DMPA) With the Occurrence of Amenorrhea in Family Planning Acceptors at the Pratama Delima Rahayu Sragen Clinic with Probability Values  $0,001 < 0,05$ .

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