

## The Effect of 3-Month Contraceptive Injections on the Smoothness of Breastfeeding Among Mothers in the Sudiang Health Center Area Makassar City

Amanda Asri, Andi Alifia Ayu Delima\*, Arlina Wiyata Gama

Doctoral Education Program, Faculty of Medicine and Health Sciences, Alauddin State Islamic University of Makassar

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\*Corresponding Author :

[Delimalifiayu@gmail.com](mailto:Delimalifiayu@gmail.com)

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### ABSTRACT

Breast milk is the best food for infants, especially during the first 6 months (exclusive breastfeeding) and continued up to 2 years. Breastfeeding is the best way to meet nutritional needs. However, many mothers still cannot breastfeed their children properly. One of the biggest obstacles is insufficient or no breast milk at all. Many factors influence the smoothness of breastfeeding, one of which is contraceptives. Contraceptives are drugs used to prevent pregnancy. This study aims to analyze the effect of 3-month contraceptive injections on the smoothness of breastfeeding among mothers at the Sudiang Health Center in Makassar City. This type of research is an analytical survey with a case-control approach. The population in this study was 342, from which 184 samples were taken from January to June 2022. Univariate and bivariate analysis techniques were used to analyze the data. This study used SPSS 23, with a chi-square test, and obtained a p-value of 0.000, which means there is a significant effect of the 3-month contraceptive injection on the smoothness of breastfeeding among mothers in the Sudiang Health Center area, Makassar City.

**Keywords: 3-Month Contraceptive Injection; Progesterone Injection; Hormonal Contraception.**

### INTRODUCTION

Breast milk (ASI) is a special fluid that comes directly from a mother's breast for her baby. ASI is the most perfect, nutritious, inexpensive, and clean baby food (Yusrina and Rukmini, 2016). ASI is the most important fluid needed by infants, especially at the age of 0-6 months, as it contains various essential substances for current and future growth and development. ASI also contains complete nutrition required by the baby and immunological properties that can protect the baby from various types of infections. (Siregar, et al., 2019)

Providing good breast milk requires a good understanding of the benefits of ASI and breastfeeding, as well as factors that can hinder a mother from breastfeeding. One

common obstacle is that breast milk does not come out or its production is insufficient. Many factors influence breast milk production, and a quite frequent occurrence is the use of contraceptives. (Alice, et al., 2020. Adnyana et al., 2016)

Contraceptives are tools or drugs used to prevent pregnancy. Contraceptives are a policy of the family planning (KB) program that is accountable from the perspectives of religion, cultural norms, ethics, and health, in accordance with Ministry of Health Regulation No. 97 of 2014 concerning healthcare services during pre-pregnancy, pregnancy, childbirth, and postpartum periods. (Herowati & Sugiharto, 2019). The aim of the KB program is to enhance the welfare of mothers and children in order to achieve the Happy and Prosperous Senior High School Family Norm (NKKBS). (Husna, et al., 2020. Syamsul et al., 2020)

Based on the data on active family planning (KB) participants in Indonesia in 2020, Bengkulu Province had the highest percentage at 71.3%, followed by South Kalimantan and Jambi. Meanwhile, the lowest percentage of KB participation was in Papua Province at 24.9%, ranking 34th. South Sulawesi had a relatively high percentage, at 61.5%, ranking 17<sup>th</sup>. (BKKBN, 2018. Kemenkes RI, 2021)

Based on the data on active KB participants according to modern contraceptive methods in 2020, it was found that the majority of acceptors chose the injection method at 72.9%, followed by pills at 19.4%. These two types of tools are classified as short-term contraceptive methods. This pattern occurs every year, with more participants choosing short-term contraceptive methods over long-term contraceptive methods. (Kemenkes RI, 2021)

Injectable contraceptives are the most popular form of contraception among women in Indonesia because they have proven effective in preventing pregnancy and are easy to use. However, the need for women during breastfeeding is a contraceptive that is safe to use while breastfeeding. Breastfeeding mothers are not recommended to use injectable contraceptives containing estrogen because it can decrease the amount of breast milk production, and they are advised to use injectable contraceptives containing only progesterone. However, excessively high levels of progesterone can have a negative feedback effect on the hypothalamus, thereby disrupting breast milk production. (Astuti, 2020) Therefore, the researcher is interested in investigating the effect of 3-month injectable contraceptives on the smoothness of breastfeeding.

## MATERIALS AND METHODS

This study is based on an analytical survey with a case-control design. The research was conducted over 2 months, from July to August 2022, at the Sudiang Health Center in Makassar City. A total of 184 mothers were used as samples, divided into two groups: 92 respondents in the 3-month injectable contraceptive group and 92 respondents in the non-3-month injectable contraceptive group. The study obtained a complete sample of 184 samples.

Secondary data methods and questionnaires were used to collect the necessary information on dependent and independent variables. The researcher first reviewed the medical records of the samples, followed by administering the questionnaire. Then, the researcher selected samples that met the inclusion criteria and did not fall under the exclusion criteria. Subsequently, univariate and bivariate chi-square analyses were performed to examine the relationship between the two variables and to assess the research hypothesis. An ethics approval request for the study was submitted to the Ethics Committee of the Faculty of Medicine and Health Sciences at Alauddin State Islamic University of Makassar.

## RESULTS

Table 1 shows the distribution of breastfeeding mothers' characteristics from January to June 2022 at the Sudiang Health Center in Makassar City. Based on age groups, the majority were in the adequate age range (20-35 years), totaling 158 respondents (85.9%). Regarding the highest level of education, most had completed high school or its equivalent, totaling 69 respondents (37.5%). In terms of occupation, the majority were unemployed or worked as housewives, totaling 96 respondents (52.2%). The most common contraceptive category was the 3-month injectable contraceptive, with 92 respondents (50%), while the most common non-3-month injectable contraceptive category was the IUD, with 40 respondents (21.7%). Regarding the smoothness of breastfeeding, the majority of mothers who used contraceptives experienced smooth breastfeeding, with 100 respondents (54.3%), while 84 respondents (45.7%) experienced difficulties.

**Table 1. Distribution of Respondents Based on the Characteristics of Breastfeeding Mothers Using Contraceptives at PuskeSenior High Schools Sudiang in Makassar City**

Parameter	Frequency (N)	Presentase (%)
<b>Age</b>		
- <20 years	11	6
- 20-35 years	158	85,9
- >35 years	18	8,2
<b>Education</b>		
- Elementary School	23	12,5
- Junior High School	30	16,3
- Senior High School	69	37,5
- Bachelor's Degree	58	31,5
- Magister/Doctor	4	2,2
<b>Work</b>		
- Unemployed/Housewife	96	52,2
- Civil servant	38	20,7
- Self-employed	34	18,5
- Employed	5	2,7
- Laborer	11	6
<b>3-month birth control injection</b>		
- KB injection 3 months	92	50
- Non KB injection 3 months	40	21,7
a. IUD	36	19,6
b. Implant	16	8,7
c. Family planning pills		
<b>Breastfeeding Smoothness</b>		
- Smooth	100	54,3
- Not Smooth	84	45,7
<b>Total</b>	<b>184</b>	<b>100</b>

Table 2 shows that among mothers aged 20-35 years, the majority had smooth breastfeeding, with 89 respondents (48.4%), while 69 respondents (37.5%) experienced difficulties. The Chi-Square test results showed a p-value of 0.000, indicating a significant effect of age on the smoothness of breastfeeding among mothers.

**Table 2. The Influence of Age on the Smoothness of Breastfeeding by Mothers in the Sudiang Community Health Center Area, Makassar City**

Age	Breastfeeding Smoothness				Total		<i>p-value</i>
	Smooth		Not Smooth		N	%	
	N	%	N	%			
<20 years	11	6	0	0	11	6	0,000
20-35	89	48,4	69	37,5	158	85,9	
>35 years	0	0	18	8,2	18	8,2	

Table 3 shows that among mothers with a high school or equivalent education, the majority experienced smooth breastfeeding, with 63 respondents (34.2%), whereas among mothers with a diploma or higher education, the majority experienced difficulties, with 55 respondents (29.9%). The Chi-Square test results yielded a p-value of 0.000, indicating a significant effect of education level on the smoothness of breastfeeding among mothers.

**Table 3. The Influence of Education on the Smoothness of Breastfeeding by Mothers in the Sudiang Community Health Center Area, Makassar City**

Education	Breastfeeding Smoothness				Total		<i>p-value</i>
	Smooth		Not Smooth		N	%	
	N	%	N	%			
Elementary School	0	0	23	12,5	23	12,5	0,000
Junior High School	30	16,3	0	0	30	0	
Senior High School	63	34,2	6	3,3	69	37,5	
Bachelor's Degree	3	1,6	55	29,9	58	31,5	
Magister/Doctor sederajat	4	2,2	0	0	4	2,2	

Table 4 shows that among mothers who are housewives (IRT), the majority experienced smooth breastfeeding, with 67 respondents (36.4%). In contrast, among mothers who are civil servants (PNS), the majority experienced difficulties in breastfeeding, with 69 respondents (37.5%). The Chi-Square test results showed a p-value of 0.000, indicating a significant effect of occupation on the smoothness of breastfeeding among mothers.

**Table 4. The Influence of Work on the Smoothness of Breastfeeding by Mothers in the Sudiang Community Health Center Area, Makassar City for**

Job	Breastfeeding Smoothness				Total		<i>p-value</i>
	Smooth		Not Smooth		N	%	
	N	%	N	%			
Housewife	67	36,4	0	0	96	52,2	0,000
Civil servant	5	2,7	69	37,5	38	20,7	
Self-employed	28	0	15	8,2	34	18,5	
Employed	0	0	5	2,7	5	2,7	
Laborer	0	0	11	6	11	6	

Table 5 shows that among mothers using the 3-month injectable contraceptive, the majority experienced difficulties in breastfeeding, with 55 respondents (59.8%). In contrast, among mothers using non-3-month injectable contraceptives, the majority experienced smooth breastfeeding, with 63 respondents (68.5%). The Chi-Square test results showed a p-value of 0.000, indicating a significant effect of the 3-month injectable

contraceptive on the smoothness of breastfeeding among mothers at the Sudiang Health Center in Makassar City.

**Table 5. The effect of 3-month birth control injections on the smoothness of breastfeeding by mothers in the Sudiang Community Health Center area, Makassar City**

KB injection 3 months	Breastfeeding Smoothness				Total		<i>p-value</i>
	Smooth		Not Smooth		N	%	
	N	%	N	%			
KB injection 3 months	37	40,2	55	59,8	92	100	0,000
Non KB injection 3 months	63	68,5	29	31,5	92	100	

## DISCUSSION

This study found a correlation between the mother's age and the smoothness of breastfeeding. This is in line with the research by Alice Leiwakabessy and Devi Azriani (2020), which indicates that there is a relationship between age, parity, and breastfeeding frequency with breast milk production. The age range of 20-35 years is considered a healthy reproductive period, as the reproductive organs are physically prepared and the mother's psychological condition affects her readiness to welcome the baby. Generally, women aged 20-35 have better lactation capacity compared to those over 35 years old, as their milk output is higher compared to those of reproductive age. Women under 20 years old are generally not psychologically prepared to become mothers, which can lead to psychological stress, depression, and difficulties in breastfeeding. (Budiati, et al., 2018. Subekti & Atin Faidah, 2019)

There is a significant relationship between a mother's education and knowledge with the smoothness of breastfeeding. Mothers with higher education are more likely to provide exclusive breastfeeding because they are better at receiving information, making decisions, and are more prepared to accept new information. This is accompanied by information about the future benefits of breastfeeding, which influences a mother's decisions. (Zulkarnain, 2021) Therefore, more educated mothers who receive information about the benefits of breastfeeding are likely to breastfeed correctly until their child is 2 years old, particularly providing exclusive breastfeeding. (Assriyah, 2020) Additionally, this is consistent with the research by Widya Fadila & Ramadhana Komala (2019), which found a relationship between maternal knowledge and education with exclusive breastfeeding. (Romlah, 2019. Fadila & Komala, 2018)

However, this contrasts with the study by Diah Ayu Pitaloka et al. (2018), which found that as a mother's education level increases, the number of mothers who do not

breastfeed their babies also increases. Working mothers face difficulties in finding time to breastfeed and in taking maternity leave, resulting in a shorter breastfeeding period. In reality, working mothers do not need to stop breastfeeding their children; they should continue to provide exclusive breastfeeding to their babies until they are 6 months old. (Ratih, 2019. Ayu Pitaloka et al., 2018)

Employment is an activity or effort undertaken by an individual to meet their daily living needs. Working mothers face many challenges, such as managing time with their spouse and children while also handling household responsibilities. If they are continuously preoccupied with work, it can lead to significant fatigue, as they have to balance work and their duties as homemakers throughout the day. (Rinata, et al., 2016. Fitriani et al., 2018)

Mothers with many children have increased responsibilities and less free time. Therefore, working mothers are more likely to be unable to breastfeed until their child is 2 years old and to provide exclusive breastfeeding. Based on questionnaire results, many non-working respondents still did not provide exclusive breastfeeding due to other factors such as lack of information about breastfeeding or issues with milk supply. This indicates that even non-working mothers have the opportunity not to provide exclusive breastfeeding (Arie Fitriani et al., 2018). This is consistent with the research by Arie et al. (2018), which found a significant relationship between a mother's employment status and exclusive breastfeeding. (Rahayu, 2016. Fitriani et al., 2018)

This study also found a correlation between the use of the 3-month injectable contraceptive and the smoothness of breastfeeding among mothers. Postpartum mothers frequently use the 3-month injectable contraceptive due to its effectiveness in preventing pregnancy and its minimal interference with breastfeeding. It is advised that breastfeeding mothers avoid contraceptives containing estrogen, as estrogen can decrease breast milk production. Instead, the 3-month injectable contraceptive containing only progesterone is recommended, as progesterone supports alveolar growth and milk production. This aligns with the findings of Indah Safitri (2016), who noted that high estrogen levels could significantly impact milk production by inhibiting prolactin secretion through a feedback mechanism involving luteinizing hormone and dopamine. However, high levels of progesterone during lactation may also negatively affect breastfeeding by increasing feedback inhibition on pituitary hormones, which can hinder lactation and lead to early return of fertility. (Niar et al., 2021; Rejeki, 2019; Safitri, 2016)

Despite the recommendation to use progesterone-only contraceptives to avoid lactation issues, some mothers still experience difficulties with breastfeeding. High progesterone levels can lead to side effects such as fatigue, emotional instability, and reduced appetite, which may contribute to stress and negatively affect milk production. Stress is known to impact lactation by blocking the let-down reflex due to adrenaline release, which causes vasoconstriction in the mammary glands (Anggraeni, et al., 2016. Hana, 2016). Moreover, postpartum depression, which is associated with elevated prepartum estrogen and progesterone levels, can further exacerbate breastfeeding challenges. Studies have confirmed that psychological stress and high progesterone levels are linked to decreased milk production, underscoring the need for careful management of contraceptive methods in breastfeeding mothers. (Nova et al., 2020. Puspita Sari et al., 2016)

### CONCLUSIONS

Based on the analysis results of this study, it can be concluded that there is a significant correlation between the 3-month injectable contraceptive and the smoothness of breastfeeding among mothers in the Sudiang Health Center area of Makassar City. It is anticipated that mothers will actively participate in the educational sessions provided by healthcare professionals regarding contraception and family planning. Additionally, it is essential for mothers to engage in regular health check-ups, particularly if any reproductive health issues are identified. Active involvement during family planning counseling is crucial, especially for postpartum mothers, to ensure they receive comprehensive guidance. Furthermore, mothers should be well-informed about the benefits, indications, contraindications, and potential side effects of various contraceptive methods before choosing to use them. This knowledge empowers them to make informed decisions that align with their health needs and personal preferences.

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