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Research Article

Relationship Between 3-Month Injection Contraception and Breast Milk Production

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Abstract: Exclusive breastfeeding is a practice where infants are fed only breast milk, without additional food, drink, or water, for the first six months of life. This practice is crucial for the infant's growth and development. One factor that may affect breast milk production is the use of contraceptives, particularly the 3-month injection. This study aims to determine the relationship between the use of 3-month injections and the adequacy of exclusive breast milk production in mothers of children aged 7 to 23 months. A cross-sectional study design was employed, utilizing both primary and secondary data. The sample consisted of 72 mothers with children aged 7–23 months, of whom some used 3-month contraceptive injections and others did not. The data collected from the participants included their contraceptive usage and breast milk production status. The results showed that 29 out of 36 mothers (80.6%) who used 3-month injections still produced adequate amounts of breast milk. A bivariate analysis revealed a statistically significant relationship between the use of 3-month injections and the adequacy of exclusive breast milk production, with a p-value of 0.039. This finding suggests that, while most mothers who use 3-month injections still have sufficient breast milk production, there is a clear relationship between the use of contraceptive injections and the adequacy of milk. It is important to note that while the majority of mothers on 3-month injections maintained adequate milk production, the choice of contraceptive method during breastfeeding should still be carefully considered. Health workers play a vital role in providing guidance to ensure the best choice of contraception for breastfeeding mothers to support both maternal and infant health.

Keywords: Exclusive Feeding; Injectable Contraceptive; Milk Production

1. Introduction

Breast milk (ASI) is a white fluid produced by a woman's mammary glands through the lactation process. ASI is the best source of nutrition for babies, because of its natural nature and complete composition and is suitable for babies. ASI is said to be sufficient for babies if there are characteristics including: ASI seeps out of the mother's nipples, the baby breastfeeds for a long time (>10 minutes) each time, the baby is not fussy after breastfeeding, and the baby urinates frequently (>6 times a day), the mother hears the sound of swallowing when the baby swallows ASI, the mother feels ticklish every time the baby breastfeeds, the child breastfeeds more than six times a day, and urinates more than three times a day (Szyller et al., 2024).

Most children in Indonesia are breastfed continuously until the first year, about half of children under 2 months receive exclusive ASI. The coverage of babies aged 0-6 months who are given exclusive ASI is 41.5%. The percentage of exclusive ASI decreases continuously after the first 2 months (Hastuti, 2023).

Breastfeeding coverage in Indonesia is only 37.3% (Boa et al., 2024). This figure is below the WHO target which requires breastfeeding coverage of up to 50%. According to the Ministry of Health of the Republic of Indonesia, exclusive breastfeeding coverage in

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Indonesia has not reached the expected figure of 80%. Based on the 2017 Healthy Family Indicator report, the achievement of exclusive breastfeeding was 75.8%. Irregular breast milk production is one of the factors that causes failure in providing exclusive breastfeeding, this is in accordance with Chan's research (2006), of 44 postpartum mothers, 44% stopped breastfeeding before the baby was 3 months old due to insufficient breast milk, 31% due to breast problems, and 25% felt tired (Nathalia et al., 2024).

The method or type of contraception to be used must take into account health status, side effects, and consequences of failure. The use of contraception in breastfeeding mothers also needs to be considered so as not to reduce breast milk production. Examples of contraceptives that can be used are condoms, IUDs, special breastfeeding pills or 3-month hormonal injections (Wahyuni & Hutasoit, 2023).

Based on the background of the problem above, the researcher formulated the objective, namely to determine the relationship between 3-monthly contraceptive injections and the adequacy of exclusive breastfeeding in mothers who have children aged 7–23 months.

2. Research Methods

This study is a quantitative study with a cross-sectional design, which aims to determine the relationship between the use of 3-month contraceptive injections and the adequacy of exclusive breastfeeding in breastfeeding mothers. The study was conducted with an analytical observational approach, where the independent variables and dependent variables were measured simultaneously at one time.

The number of samples in this study was 36 mothers who had children aged 7 to 23 months, both those who used 3-month contraceptive injections and those who did not. The sampling technique used the probability sampling method with a simple random sampling approach, where each member of the population had an equal opportunity to be selected as a sample. This technique was chosen because the population was considered homogeneous in terms of the characteristics studied.

Data were collected using a closed questionnaire and an observation sheet, which contained structured questions related to the use of contraceptive injections and the adequacy of exclusive breastfeeding. The validity and reliability of the measuring instrument were tested before being used in the study.

Data were analyzed using a bivariate test (chi-square test) to see the relationship between the use of 3-month contraceptive injections and the adequacy of exclusive breastfeeding. The results of the analysis are presented in the form of frequency distributions and percentages.

3. Results and Discussion

3.1. Respondent Characteristics

Based on the results of data collection, a description of the characteristics of the respondents is obtained, which is contained in the following table:

Table 1. Respondent Characteristics Based on Age and Gender

Variable	N	%
Use of 3-month injection contraception		
Yes	29	80.6
No	7	19.4
Adequate breast milk		
Enough breast milk	35	97.2
Lack of breast milk	1	2.8
Parity		
1 (primipara	12	33.3
2-4 (multipara)	24	66.7
Age		
20-35 year	2	5.6
>35 year	34	94.4
Level of education		
SD	1	2.8
SMP	9	25
SMA	21	58.3
Bachelor	5	13.9
Work		
Work	8	22.2
Not working	28	77.8
Economic level		
Low	6	16.7
Medium	27	75
High	3	8.3

The results of the study showed that most respondents (80.6%) used 3-month injection contraception. However, the majority of mothers were still able to produce sufficient breast milk (97.2%). This indicates that the use of 3-month injections does not directly cause a lack of breast milk production, in line with the research of Saputri et al. (2021) which stated that DMPA (Depot Medroxyprogesterone Acetate) injections are considered safe for use by breastfeeding mothers because they do not significantly interfere with lactation (NCBI, 2021).

The level of breast milk adequacy in this study was very high (97.2%), indicating that other factors besides contraception may have a greater influence on the smooth flow of breast milk. Among them are the frequency of breastfeeding, mother-child attachment, and the mother's knowledge of lactation management (Gilley & Krebs, 2020).

In terms of parity, the majority of mothers are multiparous (66.7%), who generally have a better experience in breastfeeding. According to the Indonesian Ministry of Health (2020), mothers with more than one child tend to have better perceptions and abilities in breastfeeding than primiparas (Maritalia et al., 2025).

Age is also an important factor: 94.4% of respondents were >35 years old, which can indicate psychological and financial readiness, but also needs to be monitored because old age is sometimes associated with the risk of slow lactation (Malwela, 2018).

The level of education shows that the majority of mothers have a high school education (58.3%), which reflects a sufficient level of understanding of the importance of exclusive breastfeeding. Mothers with higher education generally have access to information and a more positive attitude towards breastfeeding practices (Mardhika et al., 2022).

Most respondents are unemployed (77.8%), which allows them to have more time to breastfeed exclusively. This is in accordance with Yanti et al. (2019), who stated that mothers who do not work outside the home tend to have a longer duration of breastfeeding (Afik, 2018).

Finally, in terms of economy, 75% of mothers are at a middle economic level, which supports the ability to meet nutritional needs during breastfeeding. Economic factors affect maternal nutritional intake and access to health services, two things that are important for optimal breast milk production (Carretero-Krug et al., 2024).

3.2. Relationship Between 3-Month Injection Contraception And Breast Milk Production

The results of the Chi-Square analysis of the research on the relationship between 3-monthly contraceptive injections and the adequacy of exclusive breastfeeding in mothers with children aged 7–23 months are as follows:

Table 2. Relationship Between 3-Month Injection Contraception And Breast Milk Production

Use of 3-month contraceptive injections	Exclusive Breastfeeding Adequacy		p-value
	Enough Breast Milk	Insufficient breast milk	
Yes	29	0	0.039
No	6	1	

The results of the study showed that out of 29 mothers who used 3-month contraceptive injections, 29 (100%) had sufficient exclusive breast milk, while 1 in 7 mothers who did not use contraceptive injections experienced insufficient breast milk. The results of the Chi-Square statistical test showed a p-value of 0.039 ($p < 0.05$), which means that there is a significant relationship between the use of 3-month contraceptive injections and the sufficiency of exclusive breast milk.

This finding is consistent with several previous studies stating that hormonal contraception, including progestin injections (Depo Medroxyprogesterone Acetate/Depo Provera), is safe for use by breastfeeding mothers and does not significantly interfere with breast milk production if given after 6 weeks postpartum. WHO and the Indonesian Ministry of Health also recommend the use of 3-month contraceptive injections for breastfeeding mothers because they do not contain estrogen which can suppress lactation (Singhal et al., 2014).

However, although in general contraceptive injections do not reduce breast milk production, the physiological response of each mother can be different. Therefore,

monitoring of breast milk production after hormonal contraception is still important, especially in the early stages of use (Gallo et al., 2024).

These results support the importance of educating and counseling breastfeeding mothers about appropriate contraceptive choices, so that in addition to spacing pregnancies, breast milk production remains optimally maintained according to the baby's needs.

4. Conclusions

Based on the results of the study, there is a significant relationship between the use of 3-month injection contraception and the adequacy of exclusive breastfeeding in mothers who have children aged 7–23 months (p-value = 0.039). The majority of mothers who use 3-month injection contraception can still provide sufficient and exclusive breastfeeding to their babies. This shows that the use of 3-month injection contraception is a safe contraceptive method and does not interfere with breast milk production if used according to the right time and indications.

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