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Research Article

The Effect of the Use of Progestin Contraception Pills and Combinations on Adequate Production of Exclusive Breast Milk in Breastfeeding Women

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Abstract

Aims: To determine the effect of the use of progestin and combined contraceptive pills on the adequacy of exclusive breast milk production in breastfeeding mothers

Methods: This study employs quantitative research with a cross-sectional research design. This study included all breastfeeding mothers who came to the Lemahabang Public Health Center to use pill contraception, a total of 137 people. The sample in this study was 58 people using the purposive sampling technique. Bivariate analysis using chi-square test.

Results: Most of the people using progestin pill contraceptives do not, namely 36 people (62.1%). Most of the used combination pills did not, namely 39 people (67.2%). The adequacy of exclusive breast milk production for breastfeeding mothers is mostly not enough, namely as many as 35 people (60.3%).

Conclusion: It can be concluded that there is an effect of the use of progestin and combined contraceptive pills on the adequacy of exclusive breast milk production in breastfeeding mothers in the Work Area of the Lemahabang Health Center, Karawang Regency 0.05. It is recommended that breastfeeding mothers seek information about the right contraception for themselves before choosing, especially breastfeeding mothers who want to choose contraception so that their milk production is not affected or reduced.

Keywords:

Progestin Pills, Combination Pills, Adequacy of Exclusive Breast Milk Production, Breastfeeding Mothers

INTRODUCTION

Mother's milk is the best natural food for babies because it has all the energy and nutrients they need for their first six months. When a mother only breastfeeds her baby, she often has trouble. One of the main reasons for this is that her milk production isn't smooth. This will be one reason why only a small number of new babies are breastfed exclusively (1).

UNICEF and the ministry of health recommend that babies be given no food other than breast milk for the first 6 months of life, no air or other food, only breast milk

(UNICEF Indonesia, 2016). On the other hand, there are also mothers who want to breastfeed but have problems (Nurjanah, 2013). Breast milk production that is not laxative is one of the main obstacles to the low coverage of exclusive breastfeeding (1).

Babies who are not exclusively breastfed are very susceptible to diseases such as respiratory tract infections (ARI), diarrhea, severe bowel disease in premature infants, and decreased IQ, and children who are not exclusively breastfed are very susceptible to chronic diseases, such as cancer, heart disease, hypertension, and diabetes in adulthood. Not only that, but children can

also suffer from malnutrition and become overweight (2). If a baby is not given breast milk and replaced with formula milk, the baby will not get immunity, then the baby will be susceptible to various diseases and increase infant mortality (3).

According to WHO, the Maternal Mortality Rate (MMR) is 81% due to complications during pregnancy and childbirth and 25% during the postpartum period due to puerperal infection (10%). This occurs due to lack of wound care, bleeding (42%), due to tearing of the birth canal, retained placenta and uterine atony, eclampsia (13%), and complications during the puerperium (11%). Infection during the puerperium can also be caused by lactation problems, lactation problems that can occur, namely breast milk dams (4).

Data to the World Health Organization (WHO) in 2019 in the United States, the percentage of women who breastfeed who experience problems with breastfeeding reached (87.05%) or as many as 8,242 postpartum mothers out of 12,765 people. In 2018 there were 7,198 out of 10,764 mothers who experienced problems expressing breast milk, and in 2019 there were 6,543 mothers out of 9,862 people who experienced breastfeeding problems (4).

In 2020, the Association of South East Asian States (ASEAN) found that 107,654 mothers in 10 countries (Indonesia, Thailand, Malaysia, Singapore, the Philippines, Brunei Darussalam, Vietnam, Laos, Burma, and Cambodia) experienced difficulties nursing their infants. There were as many as 95,698 postpartum moms in 2019 who had difficulties nursing (66.87%), and as many as 76,543 (71.10%) in 2020, with the largest incidence rate happening in Indonesia (37.12%). (5)

Data from the Indonesian Demographic and Health Survey in 2019 stated that there were 35,985 postpartum mothers (15.60%) postpartum mothers who experienced problems with breastfeeding, and in 2020, 77,231 women experienced breastfeeding problems (37.12%) mothers. postpartum

(6). Meanwhile, according to research by the Indonesian Health Research and Development Agency in 2019, the incidence of breastfeeding problems in Indonesia was the most among working mothers as much as 6% of breastfeeding mothers (7).

The Regional Socio-Economic Survey (Suseda) of West Java Province in 2019 the incidence of problems with breastfeeding mothers in West Java, namely, 1-3% (1-3 events out of 100 breastfeeding mothers) occurred in urban areas and 2-13% (2-13 events) of 100 breastfeeding mothers) occurs in rural areas (West Java Provincial Statistics Agency, 2019). Exclusive breastfeeding coverage in West Java has only reached 45%, which is still below the national coverage of 52.3%, especially the national target of 80%, while in 2021 nearly 52% of breastfeeding mothers experience problems with breastfeeding (8).

According to data from the Health Office of the Karawang area, the coverage of exclusive breastfeeding in the Karawang area in 2018 was 17,135, in 2019 it was 19,214, in 2020 it was 16,532, in 2021 it was 14,673 (Karawang Health Office, 2021)

The increased prevalence of the problem of inadequate breast milk production has a significant impact on the postpartum period due to the inability to provide breast milk to the baby. One of the reasons for not achieving exclusive breastfeeding is that the baby does not get enough breast milk and increases milk production, late breastfeeding, poor relationship with the baby (bonding), and it can also be due to breastfeeding time limitations, so that there can be inflammation in the mother's breast and hard palpation, sometimes painful and often accompanied by an increase in the mother's body temperature, and there are signs of redness and fever.

The inadequacy of breast milk production is caused by a number of factors, including incorrect breastfeeding technique, the nipple sinking, the baby being unable to suck the nipple and areola, and the mother not breastfeeding her baby as frequently as

possible or the baby not actively sucking. Some of the factors that cause the above will result in mastitis if not treated immediately. One of the keys to the baby sucking at the mother's breast is proper attachment. If your breasts are blistered, this could indicate that your baby is not latching on properly while breastfeeding.

When the breasts have produced milk on the second or third day, problems with sufficient milk production can occur. The problem of spending is caused by milk production that is not smooth, because the baby is not enough to breastfeed, production increases, breastfeeding is late, the relationship with the baby (bonding) is not good, and it can also be caused by breastfeeding time restrictions. The inverted nipple is one of the causes of the breastfeeding problem (9).

The use of contraception is one of the efforts in family planning to control fertility and suppress population growth which is the most effective in its implementation, the contraceptive method offered to the community is expected to have optimal benefits and have minimal side effects. Birth control pills or often called hormonal contraception aim to prevent pregnancy which contain the hormones estrogen and progesterone. This contraceptive is one of the most effective methods today. These pills have a high success rate (99%) when used properly and regularly. (10)

Progestin administration (DMPA) has an impact on breast milk production if given early postpartum. While the hormone estrogen can reduce the amount of milk production. Breast milk is the best source of nutrition for babies because it is natural and has a complete composition and is suitable for babies. Breast milk is very important for babies because breast milk is the main food for babies. Breast milk is said to be sufficient for babies if there are characteristics, including breast milk seeping out of the mother's nipples, the baby breastfeeding for (> 10 minutes) at each feeding, after feeding the baby is not fussy and the baby urinates frequently (> 6 times) in a day. , the mother

hears a swallowing sound when the baby swallows breast milk, the mother feels ticklish every time the baby suckles, the child breastfeeds more than six times a day, and the baby defecates more than three times a day (11).

During lactation, the hormones prolactin and oxytocin increase. The prolactin hormone functions to produce breast milk so that it fills the alveoli while the oxytocin hormone works to squeeze breast milk from the alveoli so that milk is secreted. Under physiological conditions, after the 5th day of menstruation, the FSH hormone will increase so that the follicles mature. During lactation, however, high levels of prolactin and oxytocin hormones provide negative feedback to the FSH (Follicle Stimulating Hormone) and LH (Luteinizing Hormone) hormones, preventing egg maturation. If a mother uses hormonal contraception during lactation, the lactation hormones, specifically prolactin and oxytocin, are suppressed, causing egg maturation to occur immediately, the mother to enter the fertile period immediately, and breast milk production to be disrupted (12,13).

Based on the information obtained, the researcher is interested in conducting research on "The effect of the use of progestin and combined contraceptive pills on the adequacy of exclusive breast milk production in breastfeeding mothers in the Work Area of the Lemahabang Health Center, Karawang Regency".

METHODS

This study employs quantitative research with a cross-sectional research design. In the Work Area of the Lemahabang Health Center, Karawang Regency, researchers collected measurements and observations between the dependent variable and the independent variable at the same time to determine the effect of progestin and combined contraceptive pills on the adequacy of exclusive breast milk production in breastfeeding mothers. The population is the entire object of study or

research (Notoadmodjo, 2012). The participants in this study were all 137 breastfeeding mothers who came to the weakabang public health center to use pill contraception. This study's sample size was 58 people. Purposive sampling is the sampling technique used in this study. Bivariate analysis was used to determine whether there was a relationship between the independent variable and the dependent variable in the conceptual framework. The

purpose of the bivariate analysis is to determine whether there is a relationship between two variables, specifically the dependent variable and the independent variable. The researcher used a statistical test, the Chi-Square test, to examine the effect of the two variables in this study. Conditions for using the Chi-Square test with a 2x2 table to obtain the R value and the research variable being a categorical variable.

RESULTS

Table.1
Frequency Distribution of Progestin Pill Contraceptive Use in the Working Area of the Lemahabang Health Center, Karawang Regency

Progestin Pill Contraceptives	Frequency	Percentage (%)
Yes	36	62,1
No	22	37,9
Total	58	100,0

According to Table.1, the description of the use of progestin pill contraception in the working area of the Lemahabang Public Health Center, Karawang Regency, is mostly less than 36 people (62.1%).

Table. 2
Distribution of the Frequency of Combination Pills in the Working Area of the Lemahabang Health Center, Karawang Regency

Combination Pills	Frequency	Percentage (%)
Yes	19	32,8
No	39	67,2
Total	58	100,0

According to Table 2, the description of the use of combination pills in the Work Area of the Lemahabang Health Center, Karawang Regency, is mostly not, with as many as 39 people (67.2%) not using them.

Table. 3
Frequency Ddistribution of the Adequacy of Exclusive Breast Milk Production for Breastfeeding Mothers in the Lemahabang Health Center Work Area, District Karawang

Adequate exclusive breast milk production	Frequency	Percentage (%)
Enough	23	39,7
Not enough	35	60,3
Total	58	100,0

According to Table 3, the description of the adequacy of exclusive breast milk production for breastfeeding mothers in the Work Area of the Lemahabang Health Center, Karawang Regency, is mostly insufficient, with as many as 35 people (60.3%) participating.

Table. 4
Effect of Progesterin Pill Contraceptive Use on the Adequacy of Exclusive Breast Milk Production in Breastfeeding Mothers

Progesterin contraceptive pill	Adequacy of exclusive breast milk production				Total		P- Value
	Enough		Not enough		n	%	
	n	%	n	%	n	%	
Yes	19	52,8	17	47,2	36	100	0,013
No	4	18,2	18	81,8	22	100	
Total	23	39,7	35	60,3	58	100	

According to table 4, 81.8% of breastfeeding mothers who do not use progesterin pill contraception experience insufficient exclusive breast milk production. The chi-square test yielded $P = 0.013$ < 0.05 , indicating that the use of progesterin-only contraceptive pills has an effect on the adequacy of exclusive breast milk production in breastfeeding mothers in the Work Area of the Lemahabang Health Center, Karawang Regency.

Table. 5
The Effect of the Use of Combined Pill Contraception on the Adequacy of Exclusive Breast Milk Production in Breastfeeding Mothers

combined pill contraceptive	Adequacy of exclusive breast milk production				Total		P-Value
	Enough		Not enough		n	%	
	N	%	n	%	n	%	
Yes	12	63,2	7	36,8	19	100	0,021
No	11	28,2	28	71,8	39	100	
Total	23	39,7	35	60,3	58	100	

Based on table. 5 most of the breastfeeding mothers who experience insufficient exclusive breast milk production who do not use combined pill contraception are 71.8%. The results of the chi-square test obtained $P = 0.021 < 0.05$, which means that there is an effect of the use of combined pill contraception on the adequacy of exclusive breast milk production in breastfeeding mothers in the Work Area of the Lemahabang Health Center, Karawang Regency.

DISCUSSION

1. Effect of progestin pill contraceptive use on the adequacy of exclusive breast milk production in breastfeeding mothers in the Lemahabang Health Center Work Area, Karawang Regency

According to the study's findings, 81.8% of breastfeeding mothers experienced insufficient exclusive breast milk production and did not use a progestin pill contraceptive. The chi-square test yielded $P = 0.013 < 0.05$, indicating that the use of progestin-only contraceptive pills has an effect on the adequacy of exclusive breast milk production in breastfeeding mothers in the Work Area of the Lemahabang Health Center, Karawang Regency.

The results of this study are in line with research conducted by (1) which states that there is an influence between the use of contraceptives on the smooth production of breast milk in Bendan Village, Banyudono District, Boyolali Regency ($p\text{-value} = 0.022 < 0.05$). In her research, Safitri I found that the use of combined contraceptives of the hormones estrogen and progesterone was associated with a decrease in the volume and duration of breast milk, on the contrary, if the contraceptive only contained progesterone.

During lactation, the hormones prolactin and oxytocin increase. The prolactin

hormone functions to produce breast milk so that it fills the alveoli while the oxytocin hormone works to squeeze breast milk from the alveoli so that milk is secreted. Under physiological conditions, after the 5th day of menstruation, the FSH hormone will increase so that the follicles mature. During lactation, however, high levels of prolactin and oxytocin hormones provide negative feedback to the FSH (Follicle Stimulating Hormone) and LH (Luteinizing Hormone) hormones, preventing egg maturation. If a mother uses hormonal contraception during lactation, the lactation hormones, specifically prolactin and oxytocin, are suppressed, causing egg maturation to occur immediately, the mother to enter the fertile period immediately, and milk production to be disrupted (2).

The researcher assumes that there is a significant effect between the adequacy of breast milk and the use of progestin contraceptives (the pill) because there are other factors that actually make breast milk sufficient for the baby, one of the factors is adequate nutritional intake while breastfeeding the baby. Therefore, adequate nutrition will also affect adequate breast milk for the baby.

2. The effect of the use of progestin contraceptive pills on the adequacy of exclusive breast milk production in breastfeeding mothers in the Lemahabang Health Center Work Area, Karawang Regency

According to the study's findings, 71.8% of breastfeeding mothers who experienced insufficient exclusive breast milk production did not use combined pill contraception. The chi-square test yielded $P = 0.021 < 0.05$, indicating that the use of combined pill contraception has an effect on the adequacy of exclusive breast milk production in breastfeeding mothers in the Work Area of the Lemahabang Health Center, Karawang

Regency. The volume of breast milk is then unaffected.

The findings of this study are consistent with those of (14,15), who discovered that the majority of them (46.3%) used three types of 3-month injectable hormonal contraception, with 9 people (22.0%) using the mini-pill type, 6 people (14.6%) using implants, 5 people (12.2%) using a 1-month injection, and at least 2 people (4.9%) using the combination pill. Breast milk production is done by 27 people (65.9%), while the current category is done by 14 people (34.1%). The statistical test results revealed a relationship between the use of hormonal contraception and milk production in the work area of the Poasia Health Center in Kendari City in 2019, with a p-value of 0.004 0.05.

This thing that must be considered in using combination contraception is the right choice before using it. Inappropriate selection of contraceptives for breastfeeding mothers will have an impact on the lactation process. One of them is if a breastfeeding mother chooses to use a combination contraceptive that contains the hormone estrogen because this will affect the production of breast milk. In mothers who have just given birth or are in the lactation period, the amount of estrogen and progesterone is reduced due to the detachment of the placenta and the lack of functioning of the corpus luteum.

This will make the hypothalamus suppress the release of hormones that inhibit the secretion of prolactin (PIF), and also inhibit the secretion of growth hormones, FSH and LH. The suppression of PIF stimulates the adenohypophysis to produce prolactin. However, if the mother's body is given continuous stimulation of the hormone estrogen in large quantities because the use of contraceptives containing the hormone estrogen makes the hypothalamus unable to suppress PIF production. High PIF

levels in the adenohypophysis cause reduced prolactin secretion, resulting in reduced milk production. Mothers who are breastfeeding are not recommended to use contraception that contains the hormone estrogen, because this can reduce the amount of milk production and can even stop milk production (16,17).

This can prove that the cause of breast milk production in breastfeeding mothers is not smooth because the mother uses inappropriate combination contraception that contains the hormone estrogen. Therefore, before making a decision, the mother should be more active in asking the midwife or other health workers about the appropriate method of contraception for breastfeeding mothers. The reduced production of breast milk can be influenced by several factors, one of which is the use of hormonal contraception that is not in accordance with the needs of the mother. As a result, once they have used inappropriate hormonal contraception, over time their milk production begins to be disrupted.

Combination pills of estrogen and progesterone, birth control pills that only contain progestin are intended for mothers who are still breastfeeding. The World Health Organization (WHO), the American Academy of Pediatrics, and the American College of Obstetricians and Gynecologists have all agreed that progestin-only birth control pills are appropriate for breastfeeding mothers. Birth control pills that only contain progestin have no effect on milk production. Even in some breastfeeding mothers, there is a slight increase in the amount of milk produced when using birth control pills. Of course, progestins are likely to pass into breast milk, but in very small amounts. Many studies to date have also found no evidence that the presence of a small amount of progestin in breast milk will have an impact on infant development.

CONCLUSION

The description of the use of progestin-pill contraception is mostly not as many as 36 people (62.1%). The description of the use of combination pills is mostly not that as many as 39 people (67.2%). The description of the adequacy of exclusive breast milk production for breastfeeding mothers is mostly not enough, namely as many as 35 people (60.3%). The chi-square test yielded $P = 0.013 < 0.05$, indicating that the use of progestin-only contraceptive pills has an effect on the adequacy of exclusive breast milk production in breastfeeding mothers in the Work Area of the Lemahabang Health Center, Karawang Regency. The chi-square test yielded $P = 0.021 < 0.05$, indicating that the use of combined pill contraception has an effect on the adequacy of exclusive breast milk production in breastfeeding mothers in the Work Area of the Lemahabang Health Center, Karawang Regency.

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