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ORIGINAL RESEARCH



CONTRACEPTION CHOICE WHICH LEAD EXTREMELY CLOSE INTERPREGNANCY DISTANCE

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Riska Faraswati ¹, Mega Silvia N ².

^{1,2} Departement of Midwifery Education Profession Program Hafshawaty Zainul Hasan University, Probolinggo - Indonesia

Corresponding Email: riskafaraswati.rf@gmail.com

ABSTRACT	Keywords
Immediate use of contraception during the postpartum period is important to prevent pregnancy again. There are various negative impacts on pregnancy that occur between 3-12 months after giving birth, such as the risk of premature birth, psychological disorders, abortion. The aim of this study was to estimate the number of women who used contraception within 18 months after giving birth and the relationship between the contraceptive method used and the risk of pregnancy within 18 months. This is a qualitative, cross-sectional study chosen as a research approach on mothers who gave birth to their first child in 2021 to 2022, which was conducted in Paiton district, Probolinggo. Data were collected from birth cohort records, contraceptive methods, and information on re-pregnancy ≤ 18 months later. previous delivery. Data were managed with the Fisher Exact Test. The test results obtained a p value of 0.000<0.05, CI 99%, which shows that the choice of contraceptive method and length of use influence the re-pregnancy interval. 63.8% who became pregnant again after 18 months of giving birth were primigravida mothers. Based on the research results, it is necessary to provide preference for primigravida mothers which can be carried out from pregnancy continuously until after giving birth	Postpartum contraceptio n, pregnancy spacing, pregnant women

INTRODUCTION

The number of married women used family planning decreased from 62% in 2023 to 61.2% in 2018. SDKI data (2017) showed that unmet need for family planning in Indonesia at 10.6% (Sejati, 2021) and back up to numbers 12.4% in 2018 (BPS, 2019); increasing

every year until in 2021, it reaches 18% (BKKBN, 2021). The target for postnatal contraceptive use nationally be appointted at 40% and accumulatively only 35.78% has been achieved. Pamekasan, Sampang, Pacitan, Probolinggo, Malang and Ba-nyuwangi Regency are the areas with the lowest target achievements in

East Java (KemenKes RI, 2021; DinKes Jawa Timur, 2023). Unmet need for family planning, it is percentage figure of the number of women who should have obtained family planning services, want to regulate pregnancy spacing and or no longer want to pregnant (Sejati, 2021). Contraception must be used after the mother gives birth.

Adoption of contraception should take place once the mother has given birth. The nationally determined target for the use of postpartum contraception is 40% and only 35.78% has been achieved. This low value is caused by the husband's perception, knowledge and low support in the immediate use of contraception after birth giving (Riastawaty, 2021; Indrawati and Ulfiana, 2022).

The postpartum period is an important time for women to start using effecttive contraception because they are more motivated to prevent further pregnancies and they are in a situation where they have access to health services. After delivery, postnatal women would visit midwife at 2 days to 6 weeks postpartum are part of services offered to all women in Indonesian (Juliastuti et al., 2021). The number of encounters midwives have with pregnant women during pregnancy and after childbirth is an opportunity to provide education on prevention of unplanned pregnancies; as one of the main purposes of postpartum visits is to provide contraceptive counselling to the postpartum woman. Midwives usually provide counselling and provide any contraceptive services as mother wishes (Stuebe, Auguste and Gulati, 2018).

Old paradigm of having to start contraception after 6 weeks postpartum has been revolutionized, moving towards choosing the most effective method as soon as possible postpartum (Floyd, 2020).

Every woman at risk of unintended pregnancy; young childbearing couples (15-30 years old) are part of target group in reducing unintended pregnancy (Pan American Health Organization, 2022). This is because unintended or unplanned pregnancies in young mothers often end in abortion (Lichtenstein Liljeblad, Kopp Kallner and Brynhildsen, 2020). One form of unwanted or unplanned pregnancies is a short inter-pregnancy interval. It is said to be a short pregnancy interval when the distance between the previous pregnancy and the next pregnancy that occurs is less than 18 months (Bryant et al., 2019). Short pregnancy spacing cause by various problems such as stunting, fetal quality, low birth weight (LBW), preterm birth, pregnant women with anemia, abnormalities during pregnancy, maternal mortality, and infant mortality (Aini and Kurniawan, 2023; Ali, Bellizzi and Shah, 2023; Khan et al., 2024).

Several studies have demonstrated the safety and effectiveness of providing contraception to women immediately after delivery. Evidence also shows that delaying reversible or permanent contraceptive methods results in a close incidence of recurrent pregnancy (Daniel, 2019; Potter et al., 2019; Cox et al., 2020). As a phenomenon that is still ongoing in the East Java region, one of which is Probolinggo. Postnatal contraceptive adoption rates are low, followed by pregnancy again before the youngest child reaches 18 months of age, which of course is followed by other problems such as high stunting (35.4%), increased MMR (up to 23 cases), high LBW cases (43%) (DinKes Jawa Timur, 2023; Musleh, 2024).

This research was based on the description and phenomena mentioned above. The aim of this study is to estimate the number of women who use contra-ception within 18 months after

delivery and relationship between type of method used and risk of pregnancy within 18 months. The study will also examine the percentage of pregnancies that occur \leq 18 months after delivery that are un-intended

METHOD

This was cross-sectional study to assess the number of unintended/unplanned pregnancies occurring within less than 18 months of the previous birth and to look at the correlation between contraceptive use after the previous delivery and cases of unintended or unplanned pregnancies. The research was conducted in Paiton Subdistrict of Probolinggo Regency in January 2023.

Population of this study was 2.269 women of childbearing age in Paiton district of Probolinggo Regency. Secondary data used as data research, which obtained from the cohort/register book of pregnant women aged 15-30 years who gave birth in 2021-2022.

Sample taken using cluster random sampling technique from 20 villages. After calculating the total number of samples using the Slovin formula, 340 mothers have given birth to their children in the period 2021-2022. We identified a cohort of women who gave birth to a single live baby and the characteristics of each mother in period 2021-2022, we identified group of women who gave birth to a single live baby and the characteristics of each mother in the 2021-2022 period, ignoring cases of miscarriage or abortion due to a lack of accurate data on this matter.

All mothers who have given birth in Paiton District in the period 2021 to 2022 are identified through mother's register/cohort records. Then researcher had identified all pregnancies occurring in the same subject, which occurred within a period of less than 18 months after the previous delivery from medical records data and mother's register / cohort. Then the data obtained would be checked again by conducting interviews and looking at the mothers' health of both mother and child (KIA) books. The contents of the

interview were only closed questions to verify previously obtained pregnancy and delivery data. The contents of the interview included the identity of the mother, history of her pregnancy and delivery, as well as history of family planning used by mother after giving birth within a year period.

All sample data of mothers who have given birth in 2021-2022, will be tested univariate and bivariate correlation test with SPSS program with CI 95% to count contraceptive users after giving birth within 18 months and asses association of contraceptive method use and risk of returning to pregnancy that occurs ≤ 18 months after the previous delivery. Univariate analysis used chi-square test and the association was expressed as odds ratio (OR) with CI 95%. However, if this test didn't meet requirements, Fisher Exact Test used. Analysis of contraceptive method in relation to the risk of becoming pregnant again ≤ 18 months after the previous delivery was analyzed using correlation test.

RESULTS

Research data shows that 25.3% or 86 women out of 340 women who had given live birth had used contraception immediately after giving birth for a period of less than 5 months postpartum (table 1). They chose varied contraceptive methods, ranging from female sterilization methods, the most effecttive contraceptive methods such as IUDs, implants, pills and injections, to less effecttive methods such as condoms, termination of intimate relations, and the calendar method. Within 6 months after the post-partum period, data shows an increase in the number of postpartum mothers using contraception, the number increased to 70%. The distribution of choice of contraceptive method used after 18 months postpartum consisted of 2.1% of women choosing female sterilization and 21.5% using longterm contraceptive methods such as IUDs or implants, while 36.8% of women each used fewer method. effective methods or none at all.

Table 1. Characteristics associated with short inter-pregnancy interval

	Birth index (n=340)	Bivariat		Multivariabel		
		The interval between pregnancies is short (%)	Communalities	(95% CI)	p	
		Age at bir	th			
< 20 year	53 (15.6)	0.000	0.513	(1,42 - 3,96) [‡]		
21-25 year	148 (43.5)					
25-30 year	110 (32.4)					
> 31 year	29 (8.5)					
		Parity				
1 child	217 (63.8)	0.568	0.507	(0,87 - 1,95)		
2 children	85 (25.0)					
3 children or more	38 (11.2)					
	Contracepti	on Time (Adoptio	n Contraception T	ime)		
6 wk	45 (13.2)	0.002	0.510	(1,01 - 1,83) [‡]		
12-18 wk	41 (12.1)					
19-24 wk	78 (22.9)					
25-31 wk	88 (25.9)					
> 32 wk	88 (25.9)					
		Contraceptive	method			
Female sterilisation	7 (2.1)	0.001	0.568	(6,17 - 72,8 ‡		
Most effective	73 (21.5)					
Less effective	125 (36.8)					
Without methods	135 (39.7)					
		Pregnanc	ies			
≤ 18 months	214 (62.9)		0.509		0.000	
≥ 18 months	126 (37.1)					

This temporary pregnancy interval occurs more often in women who have only a child, compared to women who have more than one child (63.8%:36.2%). However, the results of the bivariate test on temporary pregnancy intervals with parity, didn't show a correlation (0.568 > 0.05), which can be assumed that the situation of a temporary pregnancy interval between the current preg-

nancy and the previous birth is possible for multigravidas to experience.

Based on statistical calculations; the age of the contraceptive method, and the time a woman adopts contraception that is deemed appropriate for her; can explain the variables that are correlation factors in the incidence of short-term pregnancies since giving birth to previous live births with a Measure of Sampling Adequacy/MSA value

of 0.513 - 0.568 more than 0.50, meaning that these variables can explain the factors.

The contraceptive method used immediately after giving birth to the previous child was statistically tasted and found to have a significant correlation with becoming pregnant again within 18 months of previous delivery. The result of the statistical value test for female sterilization contraceptive method and the most effective contraceptive method consisting of IUDs, implant, hormonal birth control, and vaginal ring with p value of 0.000 < 0.05, 99% (table1).

DISCUSSION

The results of the analysis show that many of the women aged 21-25 years who were research subjects preferred contracepttive methods that were less effective or did not choose any contraceptive method at all within 18 months after giving birth. The result of this study support findings of a recent baseline study and health department reports at both the city/district and provincial levels. These show that more than half of the women didn't choose a contraceptive method immediately after childbirth, as well as research results (Kungu, Agwanda and Khasakhala, 2020; Agula et al., 2022). A women's age cannot always be a benchmark in decision-making to use postnatal contraception, although from many studies, age is often associated with it, such as the study of Rosidah (2020). Recently, the positive attitude towards contraceptive use has increased among young people, with the pill method being the most preferred method of contraception (Mahfouz et al., 2023).

Statistical analysis showed that ineffective contraceptive use was the main predictor of subsequent short intervals between pregnancies. It is both a question and a problem why these women did not use an effective contraceptive method from the start or plan for their next pregnancy. One plausible answer found in the field is that

women have little interest in using more effective methods due to side effects or other perceived problems associated with longterm contraceptive use (Jumetan, Weraman and Junias, 2022). Young women tend to choose contraception not based on goals or needs; but choose contraception that is easy to obtain, practical, and sometimes just comes to mind (Berglas et al., 2021; Ouma et al., 2021). They also oppose the use of long-acting contraceptives such as IUDs and implants due to concerns about foreign bodies and worries about interfering with daily activities (Dalimawaty, 2021). Some women may also choose not to use contraception because they plan to remain abstinent or underestimate their risk of pregnancy.

Effective contraceptive use will help reduce the number of unintended or unplanned pregnancies. Failure to provide postpartum contraception contributes to unintended pregnancies and short child spacing. Delaying a second pregnancy is good for both mother and child in terms of health and socioeconomics (Schummers et al., 2018; Barclay and Smith, 2022; Mayo Clinic, 2022).

In studies of the most effective methods of postpartum contraception, it was found that 34% of women wanted to use a long-acting method after childbirth, but many were unable to access the method of their choice and instead opted for less effective from contraception. This is due to barriers or problems with cost and sometimes difficulties in obtaining both information and reaching the insertion site (Noviasari, 2018).

The use of long-acting reversible contraceptive methods such as intrauterine devices (IUDs) and implants, can reduces incidence of short interpregnancy intervals and unintended pregnancies as they provide effective contracepttive coverage and minimal user effort. Several studies have shown very low rates of IUD insertion in hospitals after childbirth (Esposito and LoGiudice, 2019; Khurshid et al., 2020). However, there are also studies that provide estimates of young mother using long-acting reversible contraceptive methods immediately after delivery 6-8 weeks later (Artika, 2020). The results of preliminary observation on the number of women of childbearing age in Probolinggo city area from 2021 to 2022, who immediately used postpartum contracepttion were only around 30%, and 20% of whom were long-term contraceptive users.

Low-income women or families who are out of pocket to cover delivery cost and do not have insurance (Rohaya, Wahyuni and Heni, 2021), may also find it difficult to access postpartum contraception; as this service is not include in insurance services in most developing countries. In addition, some women may lose contraceptive coverage soon after giving birth due to work or other commitments. This may contribute to finding in this study that women's contraceptive method use changed relatively little after three months postpartum.

Barriers of cost, transportation, knowledge itself related to contraception and the importance of spacing pregnancies, family or husband support, beliefs or culture that effect each individual and or family; need to be considered (UNDESA, 2022). Taking steps to increase initiatives in every health service, especially public health, midwives working in villages, independent practice midwives to increase access to the most effective contraceptives or long-term contraceptive methods and reduce the rate of unwanted or unplanned pregnancies. In addition, women who received the implant or IUD immediately after delivery had a significantly lower pregnancy rate in the 12 months after delivery, compared to those

who started contraception after leaving their place of delivery.

This study has several limitations. Our analysis relies on women's retrospective reporting of their contraceptive method use, and therefore may introduce recall bias. However, the calendar method is a wellvalidated method, which when associated with other important life events reduces reporting error. Researchers used women's contraceptive method use at the start of each interval to assess the risk of having a short inter-pregnancy interval, therefore may not have adequately recorded women's contraceptive method use at the time of pregnancy. In addition, we defined the interval between pregnancies as the time between the index birth and conception of another pregnancy leading to live birth and excluded pregnancies that ended in miscarriage and abortion, this of course ignores the fact women have become pregnant again after giving birth before 18 months. This is because such assumptions are relevant to the maternal and newborn health risk associated with pregnancies carried to term. Finally, the use of more effective methods by women after childbirth may have changed since the period studied.

Despite these limitations, this study shows that many women prefer less effective contraceptive methods or do not use a method within 18 months of giving birth, resulting in short inter-pregnancy intervals and unintended pregnancies. To reduce rates of poor maternal and infant health due to close birth spacing programmes and policies that remove barriers to initiating effective contraception are needed so that women realise the importance of contraceptive to them and achieve their goal of having healthy children.

CONCLUSIONS

Unplanned or unwanted pregnancies can occur due to not using contraception or choosing an inappropriate contraceptive method that does not provide effective results. Actions aimed at strengthening each woman's knowledge and preferences need to be carried out from the time she becomes

pregnant and continue until the postpartum period. In the future, it is necessary to study more deeply the underlying preferences of women in the Probolinggo area in choosing contraceptive methods so that it will help formulate program plans to promote better contraception.

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