Return of Fertility after Discontinuation of Contraception According Type of Contraception, Duration of Use, Age and Body Mass Index

Kembalinya Kesuburan setelah Penghentian Alat Kontrasepsi Berdasarkan Jenis Kontrasepsi, Lama Pemakaian, Usia dan Indeks Massa Tubuh

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Abstract

Objective: To determine the relationship between the type of contraception, duration of use, BMI, and age on the return of fertility.

Methods: This was an analytic observational study with a cross-sectional design. The subjects in this study was 123 multigravida mothers who had met the inclusion criteria, namely with a history of regular intercourse and the exclusion criteria in this study were multigravida mothers with a history of abortion and failure of the family planning method. Data were collected by direct interviews and medical record data. Data were analyzed using Chi-square test and Logistic Regression test.

Result: The results of the Chi-square analysis showed a relationship between the type of contraception (p=0.001; OR=1.29) and age (p=0.031; OR=4.69) with the return of fertility. However, there was no correlation between the duration of use (p=0.964; OR=0.97) and BMI (p=0.246; OR=0.50) with the return of fertility. In the logistic regression test, there was no partial effect of the type of contraception (p=0.997; OR=0.22) and age (p=0.058; OR=0.01).

Conclusion: Based on the results of the analysis, it can be concluded that there is a relationship between the type of contraception and age with the return of fertility after family planning, where non-hormonal contraceptives and <30 years of age return to fertility faster, namely <1 year, but there is no relationship between duration of use and BMI with the return of fertility after family planning.

Keywords: contraception, family planning, fertility.

Abstrak

Tujuan: Mengetahui hubungan jenis kontrasepsi, lama pemakaian, IMT, dan usia terhadap kembalinya kesuburan.


Hasil: Hasil analisis dengan Chi-square, menunjukkan adanya hubungan jenis kontrasepsi (p = 0,001; OR = 1,29) dan usia (p=0,031; OR = 4,69) dengan kembalinya kesuburan. Namun, tidak terdapat hubungan lama pemakaian (p=0,964; OR=0,97) dan IMT (p=0,246; OR=0,50) dengan kembalinya kesuburan. Pada uji regresi logistik tidak terdapat pengaruh parsial dari jenis kontrasepsi (p=0,997; OR=0,22) dan usia (p=0,058; OR=0,01).

Kesimpulan: Berdasarkan hasil analisis yang dilakukan dapat disimpulkan terdapat hubungan jenis kontrasepsi dan usia dengan kembalinya kesuburan pasca KB, dimana pada jenis kontrasepsi non hormonal dan usia < 30 tahun lebih cepat kembali subur yaitu < 1 tahun, namun tidak terdapat hubungan lama pemakaian dan dengan kembalinya kesuburan pasca KB.

Kata kunci: keluarga berencana, kesuburan, kontrasepsi.
INTRODUCTION

The Family Planning Program is a government program in tackling population growth in Indonesia. This program aims to prevent or delay pregnancy. In the implementation of the Family Planning program, there are several methods used to prevent or delay pregnancy, namely the natural and modern family planning method using contraceptives. The concern of women who use or are considering using contraceptives is the effect of contraception on future fertility because about 15% of couples of childbearing age experience infertility. Many women are concerned about the use of oral contraceptives which can cause fertility problems after discontinuation of use and believe that oral contraceptives can cause secondary amenorrhea associated with anovulation and reduced reproductive fertility. Post-pill amenorrhea is amenorrhea that occurs more than 1 year after discontinuation of combined oral contraceptives. An important property that should be possessed by reversible contraceptives is that they do not affect future fertility. Delay and decreased fertility after discontinuation of contraception raises user dissatisfaction and reduces interest in using contraception.

Return to fertility after discontinuation of oral contraceptives has different effects between nulliparous and multigravida. In nulliparous, it reached 42 months, and in multigravida 30 months after discontinuation. The delayed infertility is due to the suppression of reproductive hormones in the hypothalamus and pituitary. Return to fertility after discontinuation of Depo Medroxyprogesterone Acetate (DMPA) is thought to have a longer duration than other contraceptives. Normally, fertility will return 4 months after using DMPA. Delayed return to fertility after using DMPA is not caused by damage or genetic abnormalities of the organ, but due to the continuous release of DMPA after injection. After stopping contraception, fertility is not disturbed.

Lifestyle is a risk factor for infertility. Women who have a Body Mass Index (BMI) of more than 29 Kg / m² and less than 19 Kg / m², tend to take a longer time to get pregnant. Obesity can impact the decreased ability to get pregnant. Obesity can affect the oocyte, endometrium, and embryo preimplantation. Age can also affect the quality of the oocytes produced. The decrease in the number of follicles occurs with increasing age.

Female fertility decreases at the age of 32 years, greatly decrease after the age of 37 years.

The effectiveness of using oral contraceptives is very high when used regularly and correctly. The effectiveness of injection contraception reaches 99% and in implant contraception the failure rate is 0.3%-1.0% per year. In the use of non-hormonal contraceptives, it is known that the effectiveness is quite high when used correctly. The use of IUD contraceptives the failure rate is 0.8 per 100 people each year. The effectiveness of condoms is up to 98% when used correctly and consistently, while using condoms the effectiveness is 85%.

Until now, the use of hormonal contraceptives is more attractive to contraceptive acceptors because it is easier to use. Along with the increasing number of contraceptive users, the effect of contraception on fertility is still a concern for women of childbearing age. The ideal contraception is one with minimal side effects, high effectiveness, and rapid return to fertility. From the description above, the return to fertility after discontinuation of contraception is a problem that needs attention. Previous research that has been conducted in Indonesia has compared types of injectable and oral contraceptives with the return to fertility after discontinuation. However, no research has been done on the factors of age and Body Mass Index (BMI) which can affect the return of fertility after using contraceptives. Therefore, the researchers wanted to know the relationship between the type of contraception, the length of time used, age, and Body Mass Index (BMI) on the return of fertility after family planning. By knowing the relationship between the type of contraception, the duration of use, age, and Body Mass Index (BMI) on the return of fertility, it is hoped that it can help consider the selection and placement of contraceptives.

METHODS

This study was an analytic observational study with a cross-sectional study design. This study was conducted by direct interviews with respondents and looking at medical record data. The data that has been obtained were analyzed using IBM SPSS Statistics for Windows version 25.0. This study was conducted in the Pakem Health Center working area in August - October 2020.

The subjects in this study were multigravida...
pregnant woman at Pakem Health Center in Yogyakarta who met the inclusion criteria, namely post-family planning multigravida pregnant women with a history of regular intercourse and willing to be a respondent and meet the exclusion criteria, namely multigravida post-family planning mothers with a history of irregular intercourse, a history of abortion and pregnancy due to failure of the contraception method.

The subjects in this study were selected through a non-probability sampling method using a purposive sampling method. Data obtained by interviews and looking at medical record data. In this study, respondents were divided into two groups, namely being able to return to fertility in \(<1\) year and \(\geq 1\) year. The data obtained were analyzed statistically using the chi-square test which aims to determine the relationship between the type of contraception, duration of use, age, and Body Mass Index (BMI) on the return of fertility.

RESULTS

Most of the subjects were \(\geq 30\) years old, most of the subjects’ educational status was > Senior High School, most of the subjects used hormonal contraception, most of the subjects had a body mass of 20 Kg / m² - 28 Kg / m², most of the subjects used contraception > 1 year, and most of the subjects returned to fertile \(\leq 1\) year.

The results of the Chi-Square statistical test on the relationship between the type of contraception and the return of fertility, the p-value is 0.001 (p <0.05). The p-value <0.05 in the analysis test shows that the hypothesis is accepted and there is a significant relationship between the type of contraception and the return of fertility after family planning.

The results of the Chi-Square statistical test for the age variable with the return of fertility in Table 2 obtained a p-value of 0.031 (p <0.05). The analysis test shows that the hypothesis is accepted and there is a significant relationship between age and the return of fertility after family planning. Chi-Square statistical test for the variable Body Mass Index (BMI) with the return of post-birth control fertility, obtained a p-value of 0.246 (p > 0.05). The p-value > 0.05 in the analysis test shows that the hypothesis is rejected, where there is no significant relationship...
The results of the logistic regression test showed that the p-value for the variable age was 0.058, the p-value for the variable type of contraception was 0.997, and the p-value for the BMI variable was 0.529. From the results obtained, the variables age, type of contraception, and body mass index did not have a partial effect on the return of fertility. So it can be said that age (<30 years and ≥ 30 years) and the type of contraception (non-hormonal and hormonal) influence the return of fertility simultaneously, whereas the constant value (B = -1.21) shows if the age is <30 years with type non-hormonal contraception, it is possible to return to fertility ≤ 1 year. The value of B in the age variable (B = -19.89) shows that if the age is <30 years, the return of fertility is ≤ 1 year. The variable type of contraception (value B = -1.50) shows that when using non-hormonal contraceptives, the return of fertility is ≤ 1 year. Whereas the BMI variable (value B = 0.40) shows if BMI ≤ 19 Kg/m² or ≥ 29 Kg/m², then the return of fertility is > 1 year.

### DISCUSSION

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In this study it is known that there was no significant relationship between the length of time using contraceptives and the return of fertility after family planning, where p-value = 0.964, p value> 0.05 in the analysis test showed that the hypothesis was rejected and the null hypothesis was accepted. The duration of contraceptive use does not affect the likelihood of becoming pregnant after contraception is stopped. Therefore, women do not need to be afraid of using contraceptives for a long time, because it will not affect fertility in the future\(^7\). Research using contraceptives for a long time, because pregnant after contraception is stopped. Use does not affect the likelihood of becoming pregnant after family planning, where p-value = 0.964, p value> 0.05 in the analysis test showed that the hypothesis was rejected and the null hypothesis was accepted.

There is no correlation between long-term use of injecting contraceptive of DMPA and reproductive reversibility\(^5\). In this study it was stated that there was an effect of the duration of IUD contraceptive use on the fertility of its users\(^5\).

In table 3, the results of the analysis using logistic regression test, where the p-value of the age variable is 0.058 (p > 0.05), the p-value of the Contraception Type variable is 0.997 (p > 0.05) and the Body Mass Index variable p-value is 0.529 (p > 0.05) which means that age, type of contraception and Body Mass Index (BMI) do not have a partial effect on the return of fertility and the variables of age and type of contraception have a simultaneous effect. When using non-hormonal contraceptives and aged <30 years, fertility returns ≤ 1 year. Whereas at BMI ≤ 29 Kg / m\(^2\) or ≥ 29 Kg / m\(^2\), the possibility of returning to fertility is> 1 year.

**CONCLUSIONS**

Based on the research above, it can be concluded that there is a relationship between the type of contraception and age on the return to fertility after birth control where the non-hormonal contraceptives and age <30 years return to fertility (<1 year) . There is no significant relationship between the duration of contraceptive use and BMI with the return of fertility.

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