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Factors affecting postpartum contraceptive utilization in Yogyakarta

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ABSTRACT

The percentage of postpartum contraceptive usage in Yogyakarta was lower than the average percentage of it in DI Yogyakarta province. The study aimed at assessing factors affecting postpartum contraceptive utilization in Yogyakarta. This study was an observational analysis used cross-sectional approach. It was conducted in Yogyakarta on January to February 2021 with the new contraceptive users as the population. Purposive sampling technique was employed, involving 50 respondents. Data collected by an online form questionnaire. Data analysis used the Chi-square test and Fisher-exact test, while multivariate analysis used logistic regression. The magnitude of postpartum contraceptive utilization was 52%. There were association between knowledge level (p=0,035), attitude towards postpartum family planning (p=0,011), husband support (p=0,025) and healthcare provider support (p=0,048) with postpartum contraceptive usage. There was no association between the information exposure (p=0,490) with postpartum contraceptive usage. Knowledge level was the most affecting factor, OR 6,909 (95% CI 1,087-43,912; p=0,041). Attitude towards postpartum family planning and husband support were the confounding factors between knowledge level and postpartum contraceptive utilization. Women with good knowledge, good attitude towards postpartum family planning and husband support has probability 80,8% to use postpartum contraceptive.

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INTRODUCTION

The World Health Organization (WHO) reported 295,000 worldwide maternal deaths in 2017. The trend of Maternal Mortality Rate (MMR) decreased from 2000-2017 by 38% from 342 to 211 per 100,000 live births.[1] Indonesian Health Profile in 2019 stated that there was a decrease in MMR in Indonesia during the period of 1991-2015 from 390 to 305 per 100,000 live births based on the results of *Survei Penduduk antar Sensus* (SUPAS) in 2015. Despite the decline, MMR in Indonesia did not manage to reach the MDGs target of 102 per 100,000 live births in 2015. Family Planning (FP) has an important role in strategies to reduce the risk of maternal death.[2]

Contraceptive Prevalence Rate (CPR) in the world by the year of 2020 according to WHO's report is 49%. CPR is the rate of contraceptive use in women of childbearing age (15-49 years). Asia Pacific ranked second with CPR at 52% with the highest contraceptive

use rate among the other 6 regions. Compared to other countries in the Asia Pacific, Indonesia has a contraceptive use rate below the global figure of 44%.[3]

Badan Kependudukan dan Keluarga Berencana (BKKBN) in 2018 reported that 63,27% among women of childbearing age as an active contraceptive users in Indonesia.[4] The coverage of FP acceptors in Indonesia has decreased by the year of 2019. The percentage of contraceptive users in 2019 was 62.5%.[2] Special Region of Yogyakarta (DIY) according to BKKBN in 2017-2019 showed the coverage of FP acceptors was below the average percentage of it in Indonesia. The contraceptive users in DIY have decreased from 2017, 2018 to 2019, namely 60.66%, 59.85%, and 59.3%.[2] The coverage data is different from the coverage data of FP acceptors in DIY recorded in the DIY Health Profile in 2017, 2018, and 2019. The percentage of FP acceptors in DIY showed impulsive numbers. After decreasing in 2018, the coverage of contraceptive usage increased in 2019 from 75.4% to 76.6%. Yogyakarta city is an area with 78.8% contraceptive users.[5,6] The first year of the postpartum period is the crucial time to use contraceptive methods to prevent unintended pregnancies.[7] Preventing unintended pregnancies is an important thing to reduce the risk of maternal death. Contraceptive use is associated with the incidence of unintended pregnancies in Indonesia.[8] The time of return postpartum fertility may come unexpectedly. Therefore, it is very good to start the use of contraceptives as early as possible after childbirth.[9]

Data Kesehatan Keluarga (Kesga) in DIY by the year of 2018 reported postpartum contraceptive users reached 14.57%. The percentage of postpartum contraceptive use in Yogyakarta was 13.06%. On the other hand, the percentage of postpartum contraceptive usage in Yogyakarta is still below the average coverage of total postpartum contraceptive usage of DIY.[6,10]

Factors related to the initiation of postpartum contraceptive use based on research in Ethiopia are paired communication about contraceptive methods, attitudes towards contraceptive methods, Antenatal Care (ANC) visits and Postnatal Care (PNC) visits. Women who have attended ANC at the end of pregnancy were 1.94 times more likely to initiate postpartum contraceptive utilization [AOR=1.94, 95% CI: (1.21, 3.03)]. In addition, women who have visited PNC after the last delivery were 1,91 [AOR=1.91, 95% CI: (1.23, 2.94)] more likely to initiate postpartum contraceptive utilization on time than those who never visited PNC.[7]

The low coverage of postpartum family planning is caused by the low knowledge level, lack of husband support, lack of information and counseling.[11] In pregnancy and immediately after childbirth is a great opportunity to provide contraceptive use counseling due to the need for resumed visits to the health service.[12] One of the purposes of family planning counseling is to provide information and confirm the imprecision of information about contraceptive methods. The counseling process ensures the exposure of full information to the client.[13] The study states that there is a relationship between the midwife information (p=0.014) to postpartum family planning knowledge.[14] Sources of information with contraceptive use are significantly related to the value of p = 0.012 (<0.05).[15]

Previous study in 2016 obtained the conclusion that knowledge level (p-value 0.019<0.05), attitude (p-value 0.034<0.05), husband support (p-value 0.00<0.05) and the role of health workers (p-value 0.009<0.05) related to the use of contraception.[16] Attitudes related to long-term postpartum contraceptive use. Husband support is the most influential factor (p=0.001, OR=19.591 (95% CI:3.227-118.927).[17] Healthcare provider support related to the selection of postpartum contraceptives p-value <0.05.[18] Other studies related to the use of postpartum IUD contraceptives mentioned that there is no significant relationship between husband support and postpartum contraceptive usage. The level of knowledge is the most dominant factor.[19]

Factors related to postpartum contraceptive use according to research are knowledge level, attitude, husband support, healthcare provider support, and the information exposure. However, the results in some other studies show different things.

Therefore, the aim of this study was to assess factors affecting postpartum contraceptive utilization in Yogyakarta. In addition, the results of this study can help policymakers and other stakeholders to improve uptake of family planning services in the community through taking the right actions on identified factors. This study can be a source of reference for future research development.

METHOD

The study was an observational analysis used a cross-sectional design. The target population of the study was the new family planning acceptors among women of childbearing age in Yogyakarta by the year of 2020. The affordable population in the study was the new family planning acceptors among women of childbearing age in Puskesmas Kotagede I and Puskesmas Jetis. A purposive sampling technique was used to identify study subjects. The minimum sample size based on the calculation of hypothetical test Lemeshow different proportions was 48. The study subjects were selected based on inclusion criteria. Women of childbearing age who gave birth on January 2020- December 2020, regularly in an ANC visit, the last childbirth helped by health workers and women who have got PNC service have been included in this study. The number of samples taken was 50 respondents. The research was conducted from July 2020 to March 2021 in Yogyakarta. The dependent variable in this study was postpartum contraceptive utilization. Postpartum contraceptive utilization is the use of modern contraceptive types of pills, injectables, implants, IUD, and female sterilization within ≤42 days of the postpartum period. Knowledge level, attitude, husband support, healthcare provider support, and the information exposure were the independent variables. Data collected by the primary type of data from respondents by sharing online questionnaires in the form of google form with a link http://bit.ly/3c9jkr8. Secondary data was obtained through access to data recording available in the relevant Puskesmas. The instruments in this study were questionnaires that have been conducted tests of validity and reliability by the researcher. Data analyzed by statistical testing software. The test is Chi-square with Fisher-exact test if chi-square requirement is not met. Logistic regression is also carried out in the analysis of research data.

RESULTS

Distribution of respondents' frequency based on characteristics and research variables

Table 1. Distribution of respondents' frequency based on characteristics

Characteritics	Frequency (n=50)	%
Age		
>35	9	18
20-35	39	78
<20	2	4
Education Level		
Basic	7	14
Middle	34	68
High	9	18
Number of Children Alive		
>2	18	36
≤2	32	64
Income		
>Rp 2.040.000,00	19	38
≤Rp 2.040.000,00	31	62

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The age of respondents in the study was mostly in the 20-35 age range with a percentage of 78%. Respondents have completed their middle education level at the high school/ vocational level with the highest percentage of 68%. The majority of respondents had a live child with a total of 1-2 children living with a percentage of 64%. Respondents' income is mostly ≤Rp 2,040,000.00 with a percentage of 62% based on Upah Minimum Kerja (UMK) Yogyakarta by the year of 2020.

Table 2. Distribution of respondents' frequency based on research variables

Variabel	Frequency (n=50)	%
Knowledge Level		
Good	40	80
Less	10	20
Attitude		
Good	30	60
Less	20	40
Husband Support		
Good	29	58
Less	21	42
Healthcare Provider Support		
Good	32	64
Less	18	36
The Information Exposure		
Exposed	40	80
No Exposed	10	20
Postpartum Contraceptive Utilization		
Yes	26	52
No	24	48

The results showed that the level of knowledge about postpartum family planning is great with a percentage of 80%. The attitude is good towards postpartum family planning with a percentage of 60%. The majority of maternal husbands provide good support with a percentage of 58%. While healthcare workers also provide good support with a percentage of 64%. The exposure information of variable showed that almost every mother have been exposed to postpartum family planning, during maternity, giving birth, and/or during the postpartum period with a percentage of 64%. The percentage of contraception used by mothers after a postpartum is 52%

Factors related to postpartum contraceptive utilization

Chi-square test and Fisher Exact-test as the alternative were done for each independent variable with the dependent variable. P-value<0,05 was used to consider the associated variables.

Table 3. The relation of knowledge level, attitude, husband support, healthcare provider support, and the information exposure to postpartum contraceptive usage

Variable	Postpartum Contraceptive Utilization						*p-value*
	Yes		No		Total		
	n=26	%	n=24	%	n=50	%	
Knowledge Level							
Good	24	60	16	40	40	100	0,035
Less	2	20	8	80	10	100	

Table 3. The relation of knowledge level, attitude, husband support, healthcare provider support, and the information exposure to postpartum contraceptive usage

Variable	Postpartum Contraceptive Utilization						*p-value*
	Yes		No		Total		
	n=26	%	n=24	%	n=50	%	
Attitude							
Good	20	66,7	10	33,3	30	100	0,011
Less	6	30	14	70	20	100	
Husband Support							
Good	19	65,5	10	34,5	29	100	0,025
Less	7	33,3	14	66,7	21	100	
Healthcare Provider Support							
Good	20	62,5	12	37,5	32	100	0,048
Less	6	33,3	12	66,7	18	100	
The Information Exposure							
Exposed	22	55	18	45	40	100	0,490
Not Exposed	4	40	6	60	10	100	

The results of the analysis as in table 3 showed that mothers with better knowledge were using postpartum contraceptives by a percentage of 60%. Mothers with less knowledge almost entirely do not use contraception with a percentage of 80%. Statistical tests of knowledge level relationship with postpartum contraceptive usage do not qualify for chi-square test use. The test result with Fisher Exact is p-value 0.035. This suggests that there is a knowledge level relationship with postpartum contraceptive utilization.

Mothers who had a good attitude were also more used postpartum contraceptives with a percentage of 66.7%. In mothers with less postpartum family planning attitudes, the percentage of non-contraceptive users is 70%. The results of the Chi-square statistical test relationship attitude with postpartum contraceptive use is p-value 0.011. Based on these results, it can be stated that there is a relationship between attitude with the use of postpartum contraceptives.

On the husband support variable, the results showed that mothers with good husband support used postpartum contraception with a percentage of 65.5%. The majority of mothers with less husband support were 66.7% not using postpartum contraceptives. Based on the test with Chi-square shows a p-value 0.025. Therefore, there is a relationship of husband support with the use of postpartum contraceptives.

Mothers who received the support of healthcare provider used more postpartum contraceptives than mothers who received less support. The percentage of mothers who use postpartum contraceptives with the good support of healthcare provider is 62.5% while in mothers with less support only 33.3%. Chi-square statistics resulted in a p-value of 0.048 which means there is a relationship between healthcare providers support and postpartum contraceptive usage.

The results showed that 55% of mothers who were exposed to information about postpartum family planning used postpartum contraceptives. Mothers who were not exposed to information did not use contraception with a percentage of 60%. Statistical tests of the relationship between exposure to the information and postpartum contraceptive use do not qualify for the use of the Chi-square test. Tests with Fisher Exact resulted in a p-value 0.490. It states that there is no relationship between exposure to information with the use of postpartum contraceptives.

The most affecting factors to the postpartum contraceptive utilization

Variables that were associated with the dependent variable at p-value<0,25 on bivariate analysis were considered for a multivariate logistic regression model to control

possible confounders and get the final model. The variables tested were the knowledge level, attitude, husband support, and healthcare provider support for postpartum contraceptive use.

Tabel 4. Analysis of the most affecting factors to the postpartum contraceptive utilization

Variable	B	Sig.	Exp (B)	CI 95%	
				Lower	Upper
Knowlede Level	1,984	0,037	7,271	1,127	46,919
Attitude	1,209	0,086	3,349	0,843	13,304
Husband Support	1,014	0,144	2,756	0,708	10,736
Healthcare Provider Support	0,781	0,278	2,183	0,532	8,959
Constant	-3,378	0,005	0,034	-	-

Table 4 shows that the p-value knowledge level of 0.037 significantly affects postpartum contraceptive use. Confounding tests are conducted on knowledge level variable. Other variables with the largest p-value are issued one by one to indicate the final model of multivariate analysis. If an issued variable causes an Exp(B) change at the knowledge level >10%, it is considered an important variable that can't be issued in subsequent tests. These variables are confounding variables or/ disruptors of the relationship between the level of knowledge and postpartum contraceptive utilization.

Tabel 5. The final model of the most affecting factors to the postpartum contraceptive utilization analysis

Variabel	B	Sig.	Exp (B)	CI 95%	
				Lower	Upper
Knowledge Level	1,933	0,041	6,909	1,087	43,911
Attitude	1,364	0,047	3,912	1,021	14,991
Husband Support	1,135	0,095	3,112	0,822	11,775
Constant	-2,997	0,007	0,050	-	-

The final results of the analysis in table 5 shows that the knowledge, attitude, and husband support mutually affect the use of postpartum contraceptives. The knowledge level and attitude partially affect the use of postpartum contraceptives p-value <0.05. The knowledge level is the most dominant factor with a p-value 0.041, OR 6.909 (95% CI 1.087-43.912). Mothers who have a good level of knowledge, have a risk or/ opportunity of postpartum contraceptive use by 6.90 times compared to mothers with less knowledge levels. The stretch of Confidence Interval (CI) value at the knowledge level is quite far. This suggests that an OR value of 6,909 could be interpreted as a coincidence to predict the large risk of postpartum contraceptive use in mothers with a good level of knowledge. However, these results can still be trusted because of the lower limit on the CI value of >1. Analysis of attitude variables resulted in a p-value 0.047, OR 3.912 (95% CI 1.021-14.991). Mothers who had a good attitude, were at risk to use postpartum contraceptives 3.91 times compared to mothers who had less attitude towards postpartum family planning. The husband support has statistically no partial effect on postpartum contraceptive use p-value 0.095. Attitude and husband support are confounding variables. Attitude and husband support are the factors that uninterrupted in relation to the level of knowledge with postpartum contraceptive use. Based on the final result of the multivariate analysis, probability calculations can be performed. The chances of mothers who have a good level of knowledge, a good attitude towards postpartum family planning, and good husband support to use postpartum contraceptives is 80.8%.

DISCUSSION

Factors related to postpartum contraceptive utilization based on research are knowledge level, attitude, husband support, and healthcare provider support. the exposure

to information is not related to postpartum contraceptive usage. The knowledge level, attitude, and husband support mutually affect the use of postpartum contraceptives. The knowledge level is the most influential factor in postpartum contraceptive utilization. It's a predisposing factor to postpartum contraceptive usage according to Lawrence Green's behavioral concept.[20] Attitude towards postpartum family planning and husband support are the confounding factors.

The results of the study on bivariate analysis stated that there is a relationship between the knowledge level and the use of postpartum contraceptives. Statistical test with Fisher Exact resulted in a p-value 0.035<0.05. This study is in line with research by Andari, NH et al in 2016 that showed that there is a relationship between knowledge with contraceptive use p-value: 0.019.[16] Previous study in Ethiopia also states that knowledge of postpartum family planning is related to the use of postpartum contraceptives.[21,22] The knowledge relates to the behavior of postpartum mothers in the participation of postpartum family planning with a p-value 0.002< 0.05.[23] The high incidence of unmet needs in postpartum mothers is caused by poor knowledge.[24] Women with good knowledge would prefer to use postpartum contraceptives compared to groups with less knowledge.[25]Other studies mention that knowledge (sig= 0.017) is also related to the selection of contraceptive types in postpartum mothers.[26] The knowledge level related to the use of long-term contraceptive methods (p-value = 0.001).[27]

The level of knowledge is also the most affecting factor in postpartum contraceptive utilization. Multivariate analysis of knowledge level resulted in a p-value 0.041, OR 6.909 (95% CI 1.087-43.912). Mothers who have a good level of knowledge have 6.90 times more chance of using postpartum contraceptives than mothers with less knowledge. Another study found that mothers with good knowledge were 7.5 times more likely than mothers with less knowledge to use postpartum contraceptives.[28] The knowledge is also the dominant variable against the use of postpartum contraceptives in a study by Musmundiroh in 2019.[19] On the other hand, the results of this study opposed the study which stated that there is no relationship between knowledge level and contraceptive use although the majority of respondents are also knowledgeable.[29] Knowledge is a predisposition factor to behaviour according to Lawrence Green's behavioral concept. Knowledge is a very important domain for the formation of behavior. Positive behavior can last a long time when based on sufficient knowledge. This is because the behavior occurs due to coercion or rules that can be learned and require to do.[20]

Attitude is another factor that is associated with postpartum contraceptive use. The results of the Chi-square test resulted in a p-value 0.011< 0.05. The results of this study are in accordance with the study of Dona A, et al in 2016 that in bivariate analysis, attitude is related to the initiation of postpartum contraceptive use.[7]Attitudes related to the use of contraception immediately after childbirth with a p-value of 0.005.[30] Other studies show that there is a relationship between attitude (p-value 0.01<0.05) and willingness to be a postpartum family planning acceptors.[31]

In the multivariate analysis, attitudes influenced the use of postpartum contraceptives. The resulting value is p-value 0.047, OR 3.912 (95% CI 1.021-14.991). Mothers who have a good attitude more likely to use postpartum contraceptives 3.91 times compared to mothers who have a less attitude towards postpartum family planning. A previous study in Sudan also stated that attitudes affect contraceptive use (AOR = 1,375, 95 CI 1,246–1,518).[32] In this study, the attitude was a confounding variable. Attitude is a factor that obstructs the relationship of knowledge levels with postpartum contraceptive utilization.

Attitude is a factor in the occurrence of the behavior. Attitude is the readiness to react to objects. Attitude has three main components namely cognition, affection, and consignment. In the consignment component, there is a tendency to act. The three components of the attitude form one whole attitude (total attitude). This is evidence that attitudes are very closely related to the occurrence of the behavior. Attitude is a closed

covert behaviour that can be realized by overt behaviour when a person has reached the stage of acting.[33]

Qualitative research in 2019 stated that a person's knowledge of an object contains two aspects, namely positive aspects and negative aspects. Both of these aspects will determine someone's attitude. If more positive aspects of the object are known, it will lead to a more positive attitude.[11] Good knowledge can lead to a good attitude. Counseling by health workers affects the knowledge and attitude of mothers to become postpartum family planning acceptors.[34] The other studies mention that the group given counseling has better knowledge and attitude towards postpartum family planning.[35]

Husband support is related to postpartum contraceptive utilization. The test with Chi-square showed a p-value yield of 0.025. Similar results were also obtained from the previous study that the support of husbands (p-value 0.00<0.05) is related to the use of contraception.[16] The role of the husband relates to the timeliness of postpartum contraceptive use which is ≤6 weeks with a p-value of 0.032.[36] In a multivariate analysis, this study showed that husband support had no partial effect on postpartum contraceptive use. This is not in line with research that states that husbands are the most influential factor in postpartum contraceptive use (p=0.001, OR=19.591 (95% CI:3.227-118.927).[17] However, in this study husband support is a variable that is considered important so that it can not be excluded from the final model of multivariate analysis. Husband support is confounding variable. The husband support is a disruptive factor in the relationship of knowledge levels with postpartum contraceptive use.

Family support is important to be able to realize real behavior. Research suggests that husband and family support is very influential on the use of postpartum contraceptives. Many mothers do not get permission or support from their husbands to make decisions.[11] Other studies have also stated that the absence of permission from the husband is one of the barriers to contraceptive use.[37] Counseling has a significant influence on postpartum mothers with p=0.000 in using contraceptive methods.[38] Giving family planning counseling in individuals and couples showed significant results (p<0.05) against the utilization of postpartum contraceptives. Counseling followed by couples can increase contraceptive use by 1.41 times.[39] This is one example that shows that the presence and support of husband is related to the use of postpartum contraceptives.

Healthcare provider support is another factor associated with postpartum contraceptive use. The results showed p-value 0.048< 0.05. Previous research stated that the role of health workers (p-value 0.025<0.05) is related to the use of contraceptives.[40] Other study has also shown that healthcare provider social support is associated with postpartum contraceptive use of p-value 0.005<0.05.[18] Support of health workers related to the use of IUD as a postpartum contraceptive (p= 0.000).[41]

The attitudes and behaviors of healthcare providers have an important role to improve the quality of health services. A previous study in 2018 said there was an influence on the quality of health care to contraceptive use where the value of p-value <0.05. Ramona T Mercer mentioned that there are four social support factors that can help achieve motherhood in the postpartum period. Families and healthcare providers play a role in providing these support factors. The support provided by healthcare providers can generate confidence to make decisions.[33] The scope of family planning services is very wide including the provision of counseling.[13] As in some of the previous studies mentioned, counseling has an influence on the improvement of knowledge and use of contraception. This is an example of the importance of the role of healthcare providers in helping to increase the use of postpartum contraceptives.

The information exposure unrelated to postpartum contraceptive use with a p-value of 0.490>0.05. This variable is also not included in the modeling on multivariate analysis because the p-value>0.25. Other studies in 2018 stated that there is no relationship between information and postpartum contraceptive use p-value 0.528.[42] The study is similar to this study in that there is no relationship of information exposure with contraceptive

utilization. Exposure to information is the condition of a person getting information that can benefit his life. The source of information is everything that can be used to convey information from the sender to the recipient. Sources of information can be human beings such as healthcare providers, families, and community leaders. In addition, sources of information can be in the form of mass media such as television, newspapers, online media, and magazines.[15] Postpartum mothers who get information about family planning from health workers, friends, and other sources of information are better at using modern contraceptives postpartum.[43] Research found that mothers who were informed about contraception were 1.6 times more likely to use contraception.[44] Mothers who choose to use postpartum contraceptives type IUD are informed through leaflets.[45] In this study, almost all mothers with a percentage of 80% were exposed to information about postpartum family planning since pregnancy services. Although unrelated, the percentage of contraceptive use by mothers exposed to information was higher than mothers who were not exposed to information.

CONCLUSION

The magnitude of postpartum contraceptive utilization is 52%. Factors related to postpartum contraceptive use are the knowledge level, attitude towards postpartum family planning, husband support, and healthcare provider support with a p-value<0.05. The knowledge level is the most affecting factor in postpartum contraceptive use. Attitude and husband support are the confounding factors between knowledge level and postpartum contraceptive utilization. The results of this study can be a reference for the postpartum family planning development programs and the future research development.

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