

Factors Associated with Post Placental Intrauterine Device (IUD) Use

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ABSTRACT

An intrauterine device (IUD) is the right choice for post-placental contraception because it has high effectiveness, reversible, long-term effects, and low side effects. Factors that cause low IUD use are knowledge, the role of health workers, husband support and psychological factors such as anxiety during insertion, side effects and trauma during past insertion. The study aims to determine the factors associated with using post-placental IUDs at Mangusada Hospital. This study used an analytic cross-sectional design. The sampling technique used purposive sampling, with 66 respondents, in September and October 2023. Data analysis using the Chi-square test, Mann Whitney and logistic regression with 95% CI and p-value significance <0.05. The results showed the p-value of knowledge, husband support, health worker information and anxiety <0.05, which means there is a relationship between knowledge, husband support, health worker information and anxiety on the use of post-placental IUD. The results of multivariate analysis showed that one sub-variable (husband's support) was most associated with post-placental IUD use with a p-value of 0.00 <0.05. Conclusion: Husband support partially relates to post-placental IUD use at Mangusada Hospital.

Keywords: *Anxiety, Knowledge, Husband's support, Health worker information, Post-placental IUD*

ABSTRAK

Intrauterine device (IUD) adalah pilihan yang tepat sebagai kontrasepsi pasca plasenta, karena memiliki efektivitas tinggi, reversible, efek jangka panjang, serta efek samping rendah. Faktor-faktor yang menyebabkan rendahnya penggunaan IUD adalah pengetahuan, peran petugas kesehatan, dukungan suami serta psikologis seperti kecemasan saat pemasangan, efek samping dan trauma saat pemasangan yang lampau. Tujuan penelitian, untuk mengetahui Faktor-Faktor yang berhubungan dengan penggunaan IUD pasca Plasenta di RSD Mangusada.

Penelitian ini menggunakan desain cross-sectional analitik. Teknik pengambilan sampel dengan menggunakan purposive sampling, dengan jumlah responden sebanyak 66 orang, pada bulan

September dan Oktober 2023. Analisa data menggunakan uji *Chi-square*, *Mann Whitney* serta Regresi logistic dengan CI 95 % dan signifikansi p value < 0.05.

Hasil menunjukkan nilai p value pengetahuan, dukungan suami, informasi petugas kesehatan serta kecemasan <0.05 yang artinya ada hubungan pengetahuan, dukungan suami, informasi petugas kesehatan dan kecemasan terhadap penggunaan IUD pasca plasenta. Hasil analisis multivariate terdapat satu subvariabel (dukungan suami) yang paling berhubungan dengan penggunaan IUD pasca plasenta dengan p value $0,00 < 0,05$. Kesimpulan: Dukungan suami memiliki hubungan secara parsial terhadap penggunaan IUD pasca plasenta di RSD Mangusada.

Kata Kunci: Dukungan suami, IUD Pasca Plasenta, Informasi tenaga kesehatan, Kecemasan Pengetahuan

INTRODUCTION

The results of the 2020 Population Census show that Indonesia's population continues to grow (positive growth) by 32.56 million people compared to the results of the 2010 Census, with a Population Growth Rate (PGR) of 1.25 per cent. PGR has indeed managed to slow down if we compare it to the 2000-2010 period of 1.49 per cent per year. The balance between fertility and mortality is still relatively unshifted, with the Total Fertility Rate (TFR) at 2.45. The National Population and Family Planning Board (NPFPPB) has set the direction of policies and strategies by the NPFPPB Strategic Plan for 2020-2024, namely, strengthening the integration and synchronisation of population control policies such as through the strategy of developing the Population Development Grand Design (GDPK); increasing access and quality of comprehensive Family Planning and Reproductive Health (Wardoyo, 2021).

Based on data (Kantor Perwakilan BKKBN Prov Bali, 2022), The number of couples of childbearing age in Bali reached 600,733, with active family planning participants as many as 321,029, while the number of couples of childbearing age in Badung Regency reached 73,836, with the number of active family planning participants being 36,000. Family planning services aim to increase the number of family planning participants with awareness and responsibility, foster active family planning participants, reduce birth rates, and create small, prosperous families through controlling growth (Sari, 2017). One of the strategies implemented by the government is to increase the coverage of postnatal family planning services.

An intrauterine device (IUD) is the right choice for postpartum contraception. Postnatal placement of contraceptives can reduce the rate of unintended pregnancies (Grandi et al., 2023). IUD is a long-term

contraceptive method that is used to delay, space pregnancies, and stop fertility over the long term.

Based on the percentage of couples of childbearing age (PUS) aged 15-49 years in Bali Province who are currently using IUD contraception to delay or prevent pregnancy, 2020-2022, it is 27.43% (Badan Pusat Statistik, 2022). Data at Mangusada Hospital from January-June 2023, the number of births was 523, and post-natal IUD users were 250 people.

The use of an IUD as a postpartum contraceptive has several benefits, including high effectiveness with low failure rates, practicality, painless installation, effectiveness in preventing breast milk production, lower risk of bleeding during installation, and immediate return of fertility following device removal. However, several factors contribute to the low use of IUDs: lack of public knowledge, attitudes, relatively high costs, limited access to services, the role of health workers, support from husbands as decision-makers in the family and psychological factors consisting of fear of insertion, side effects and trauma during past insertions (Putriningrum et al., 2014; Sembiring, Suwardi and Saragih, 2020). This study aimed to analyse factors

related to the use of IUDs after delivery at Mangusada Hospital

METODE

This research was carried out using a quantitative approach with an analytical cross-sectional design, namely measuring or observing all dependent variables (Postpartum family planning acceptors) with independent variables (knowledge, husband's support, health worker information and anxiety) carried out at the same time to determine the factors associated with the use of post-placental IUDs at Mangusada Hospital (Sugiyono, 2017), The sample size was 66 respondents according to the inclusion (Birth control acceptors who have recently given birth at Mangusada Hospital, aged 20-45 years with good awareness and can communicate) and exclusion criteria (Mothers who are not willing to be respondents, as well as those with complications). This research was conducted in the Ponak Room at Mangusada Hospital in September and October 2023. This research has received ethical approval No: 070/8490/RSDM/2023 by the health research ethics committee at Mangusada Hospital, Badung Regency.

Knowledge questionnaires, husband's support, and information on health workers

were tested for validity and reliability. The validity test uses Pearson Product Moment; the questionnaire is declared valid with $r_{count} > r_{table}$ 30 samples (0.361) or a significant value $(p) < 0.05$, while reliable using the Cronbach's Alpha test declared reliable because it has a value > 0.600 .

Data analysis

- a. Univariate Analysis to explain or describe the characteristics of each variable studied in a simple way, which is presented in the form of a frequency distribution table
- b. Bivariate analysis to test two variables that are thought to be related between the

independent variable and the dependent variable, using the Chi-Square statistical test if there are no cells that have an expected count value of less than 5 (maximum 20%) if the expected count value is $> 20\%$ then an alternative test is carried out using Mann Whitney, with a degree of significance $\alpha = 0.05\%$.

- c. Multivariate Analysis: a technique of collecting several data groups and analysing the relationship between more than two variables related to the data. The data analysis used was logistic regression.

RESULTS AND DISCUSSION

Univariate Analysis

Characteristics of Respondents based on Age, Parity, Income, Knowledge, Husband's Support, Health Personnel Information and

Maternal Anxiety Using Post-Placental Intrauterine Device (IUD) at Mangusada Hospital

Table 1. Characteristics of Respondents based on Age, Parity, Income, Knowledge, Husband's Support, Health worker Information, Maternal Anxiety and IUD

No	Variable	Mean	Std. Deviation	N	%	
1	Age			<20 years	2	3.03%
				20-35 years	57	86.37%
				>35 years	7	10.6%
2	Parity			Primipara	14	21.2%
				Multiparous	52	78.78%
3	Income			<Idr. 3.500.000	47	71.2%
				Idr. 3.500.000 - Rp. 5.000.000	19	28.8%
4	Mother's knowledge			Not Good	10	15.2%
				Good enough	13	19.7%

		Good			43	65,2%
5	Husband Support	Less supportive	2.88	0.810	15	22.7%
		Moderately supportive			19	28.8%
		Support			32	48.5%
6	Health worker information	Not good	2.98	0.661	6	9.1%
		Good enough			23	34.8%
		Good			37	56.1%
7	Anxiety	Mild anxiety	2.27	0.481	54	81.8%
		Moderate anxiety			10	15.2%
		Severe anxiety			2	3%
8	IUD	No IUD User	1.65	0.480	23	34.8%
		IUD Users			43	65.2%
Total					66	

Based on table 1. It can be seen from 66 respondents that the average age of the mother is 20-35 years, as many as 57 people (86.37%), the average parity of the mother is primigravida, as many as 52 people (78.78%), the average income <Rp. .500.000,-, 47 people (63.6%), the average

good knowledge is 43 people (65.2%), the average husband's support is supportive 32 people (48.5%), the average good health worker information is 37 people (56.1%), the average mild anxiety is 54 people (81.8%), IUD users are 43 people (65.2%) and not IUD users 23 people (34.8%).

Bivariate Analysis

Table 2. Chi-square analysis of the relationship between knowledge of post-placental intrauterine device (IUD) use at Mangusada Hospital

Variable	IUD				Total		P Value
	No IUD User		IUD Users				
	f	%	f	%	f	%	
Not Good	7	10.61%	3	4.55%	10	15.15%	0.029
Good Enough	3	4.55%	12	18.18%	15	22.73%	
Good	13	19.70%	28	42.42%	41	62.12%	
Total	23	34.85%	43	65.15%	66	100%	

Based on the table above, it is known that respondents with IUD users with good knowledge were 28 people (42.4%), and

those who did not use the IUD with good knowledge were 13 people (19.7%). The statistical test results p-value = 0.029, which means a relationship exists between

knowledge and the use of post-placental IUDs.

The results of this study are in line with research conducted by (Luiza *et al.*, 2020); the results demonstrated that women who were Caucasian, between the ages of 25 and 34, and who were either now using or had previously used an IUD had greater levels of awareness on the device. However, young, unmarried, and childbearing women showed

more interest in using the IUD, suggesting that awareness of the device was related to interest in using it. Based on research results (Raidanti and Wahidin, 2019), there is a relationship between the mother's knowledge (p value=0.021) and the husband's support (p value=0.000) with the use of contraceptive IUD (Intra Uterine Device) in the Working Area of Puskesmas Salembaran Jaya Tangerang Regency Banten.

Table 3. Chi-square analysis of the relationship between husband support and post-placental intrauterine device (IUD) use at RSD Mangusada.

Variable	IUD						P Value
	No IUD User		IUD Users		Total		
	f	%	f	%	f	%	
Less supportive	12	18.18%	3	4.55%	15	22.73%	0.000
Moderately supportive	10	15.15%	9	13.64%	19	28.79%	
Support	1	1.52%	31	46.97%	32	48.48%	
Total	23	34.85%	43	65.15%	66	100%	

Based on Table 3, it is known that respondents with IUD users with good husband support were 31 people (47%), and those who did not use the IUD with good husband support were one person (1.5%). The statistical test results p-value = 0.000, meaning a relationship exists between husband support and the use of post-placental IUD. This aligns with the research results (Tulle *et al.*, 2020). There was a

relationship between knowledge and husband support with IUD use. Husband support was the most dominant factor in IUD use.

Husband support is one of the external factors in the selection of contraceptives, which is a reinforcer to influence a person's behaviour. A lot of information states that the wife obtains the decision with the husband's intervention (Sariyati, 2019;

Azzahra and Rodiani, 2022). This study received results showing a statistically significant relationship between the influence of husband support on the

selection of contraceptive methods at the Kedaton Inpatient Health Center, Bandar Lampung ($p = 0.02$).

Table 4. Chi-square analysis of the relationship between health worker information on using post-placental intrauterine devices (IUDs) at Mangusada Hospital.

Variable Health worker information	IUD						P Value
	No IUD User		IUD Users		Total		
	f	%	f	%	f	%	
Not Good	4	6.06%	4	6.06%	8	12.12%	0.000
Good Enough	13	19.70%	10	15.15%	23	34.85%	
Good	6	9.09%	29	43.94%	35	53.03%	
Total	23	34.85%	43	65.15%	66	100%	

Based on Table 4, it is known that respondents with IUD users with good health worker information were 29 people (43.9%), and those who did not use the IUD with good health worker information were six people (9.09%). The statistical test results p -value = 0.006, meaning there is a relationship between health worker information and the use of post-placental IUD.

This study's results align with (Suryanti, Sipasulta and T, 2023). Good health worker information about the IUD makes it easy for respondents to understand the advantages of the IUD; the greater the number of living children, the greater the possibility of limiting births, and family income affects the use of the IUD, which requires a relatively expensive cost. There is an influence of health worker information, parity and family income on interest in using the IUD.

Table 5. Mann Whitney analysis of the relationship between Maternal Anxiety Using Intrauterine Device (IUD) Use of Intrauterine Device (IUD) Post Placenta at Mangusada General Hospital

Variable Anxiety	IUD						P Value
	No IUD User		IUD Users		Total		
	f	%	f	%	f	%	
Mild Anxiety	13	19.70%	41	62.12%	54	81.82%	0.000
Moderate Anxiety	8	12.12%	2	3.03%	10	15.15%	
Severe Anxiety	2	3.03%	0	0.00%	2	3.03%	

Total	23	34.85%	43	65.15%	66	100%
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Based on Table 5, it is known that respondents with IUD users with mild anxiety were 41 people (62%), and those who did not use the IUD with mild anxiety were 13 people (19.7%). Statistical test results $p\text{-value} = 0.000$, meaning that there is a relationship between anxiety and the use of post-placental IUD.

Anxiety and distress related to contraceptive use are barriers to the utilisation of the post-placental IUD contraceptive method (Nguyen *et al.*, 2020). Based on the results of research conducted at Mangusada Hospital, the

results of respondents with IUD users with mild anxiety were 41 people (62%), and those who did not use the IUD with mild anxiety were 13 people (19.7%). Statistical test results $p\text{-value} = 0.000$, meaning there is a relationship between anxiety and the use of post-placental IUDs. This is in line with research conducted by (Apriyanti and Novita, 2020) that anxiety levels have a relationship with IUD use (Akdemir and Karadeniz, 2019), that anxiety before installing an IUD, fear of the pain it causes can influence a stronger feeling of discomfort.

Multivariate Analysis

Table 6. Logistic regression analysis of the variables of knowledge, husband's support, health worker information and anxiety about the use of post-placental intrauterine devices (IUD) at Mangusada Hospital

Variable	Sig	Exp(B)	-2 Log likelihood	Nagelkerke R Square
Knowledge	0.520	1.372		
Husband Support	0.001	6.820		
Health worker information	0.079	2.635	44.836	0.632
Anxiety	0.047	0.089		

The Nagelkerke R Square value of 0.632 means 63.2% of the contribution of the influence of the independent variables on the dependent variable together (simultaneously), the value of 2 log likelihood $44.836 < 80.232$ (chi-square

table $\alpha 0.05$), indicating that the model after entering the independent variable has met the test requirements. Based on the Sig test, the important variables included in the multiple logistic regression model are husband support

and anxiety. Then, the double logistic Binary Regression analysis was carried out again to produce important variables

in the double logistic regression model, which can be seen in the following table

Table 7. Multiple regression analysis of the variable of husband support and anxiety of Intrauterine Device (IUD) use after placenta at Mangusada Hospital.

Variable	Sig	Exp(B)	-2Log likelihood	Nagelkerke R Square
Husband Support	0.000	8.002	48.395	0.591
Anxiety	0.062	0.133		

The results of the analysis can be concluded that of all the independent variables that are thought to be associated with the use of post-placental IUD, there is one sub-variable (husband's support) that is most partially associated with the use of post-placental IUD with a p-value of $0.000 < 0.05$. The most significant OR value obtained is 8.002, meaning that the husband's support has a chance of 8.002 times causing the mother to use the post-placement IUD. This aligns with the research results (Id *et al.*, 2022) that Knowledge about the IUD and its benefits is associated with post-placental IUD use. More information through counselling is needed to address knowledge gaps and anxiety. In addition, male partner involvement in counselling and family planning decision-making is a crucial strategy to increase post-placental IUD use. In addition, the results of research conducted by (Shintia *et al.*, 2022) stated that there was a relationship between the mother's anxiety

level and the husband's support with the selection of an intrauterine device (IUD).

CONCLUSIONS

Based on the study's results, it was found that the variables of knowledge, husband's support, health worker information and anxiety were associated with the use of post-placental IUDs at Mangusada Hospital, with a p-value < 0.05 . However, the results of the multivariate analysis show that one sub-variable (husband's support) is most partially associated with the use of post-placental IUDs with a p-value of $0.000 < 0.05$. The most significant OR value obtained is 8.002, meaning that the husband's support has a chance of 8.002 times causing the mother to use the post-placement IUD. Suggestions in this study need to be carried out on the effectiveness of reproductive health education programs in improving understanding and knowledge about post-placental IUDs by involving the

role of companions, thus increasing knowledge, husband support, and reducing anxiety in the use of post-placental IUDs.

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