

Research Article

## Factors Affecting the Drop Out Rate of Family Planning Intrauterine Device

### Hubungan Faktor-Faktor yang Mempengaruhi Drop Out Peserta Akseptor Keluarga Berencana IUD dengan Tingkat Kepatuhan

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#### Abstract

**Objective :** To assess the association between risk factors related to IUD acceptors' compliance at RSMH Palembang.

**Methods :** This cross-sectional study was conducted in the Department of Obstetrics and Gynecology Dr. Mohammad Hoesin Hospital/Faculty of Medicine Universitas Sriwijaya Palembang since May - December 2017. Subjects were women who use IUD contraceptives in the Department of Obstetrics and Gynecology Dr. Mohammad Hoesin Hospital Palembang and meet our inclusion and exclusion criteria. Medical counselling, knowledge, and side effects were assessed using a questionnaire. Data were analyzed by Chi-square test using SPSS software version 17.

**Results :** There was a significant relationship between side effects and compliance of IUD use. There was no significant correlation between knowledge and medical counselling with compliance of IUD.

**Conclusions :** Side effects associated with compliance of IUD.

**Keywords :** compliance, contraception, IUD.

#### Abstrak

**Tujuan :** Mengetahui hubungan faktor-faktor risiko yang bermakna dalam mempengaruhi kepatuhan peserta akseptor IUD di RSMH Palembang.

**Metode :** Penelitian potong lintang ini dilakukan di Departemen Obstetri dan Ginekologi Rumah Sakit Dr. Mohammad Hoesin/Fakultas Kedokteran Universitas Sriwijaya Palembang sejak Mei – Desember 2017. Sampel penelitian ini adalah perempuan yang menggunakan kontrasepsi IUD di Departemen Obstetri dan Ginekologi Rumah Sakit Dr. Mohammad Hoesin/Fakultas Kedokteran Universitas Sriwijaya Palembang dan memenuhi kriteria inklusi dan eksklusi. Konseling medik, pengetahuan, dan efek samping dinilai dengan menggunakan kuesioner. Data dianalisis dengan uji Chi square menggunakan SPSS versi 17.

**Hasil :** Ada hubungan bermakna antara efek samping IUD dengan kepatuhan pemakaian IUD. Tidak ditemukan hubungan bermakna antara tingkat pengetahuan dan konseling medik dengan kepatuhan akseptor IUD.

**Kesimpulan :** Efek samping IUD mempengaruhi kepatuhan pemakaian IUD.

**Kata kunci :** IUD, kontrasepsi, kepatuhan.

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#### INTRODUCTION

Indicators of successful health development in Indonesia are expected to be achieved if the percentage of acceptors of the long-term method of contraception (Metode Kontrasepsi Jangka Panjang/MKJP) increases.<sup>1</sup> MKJP is a long-term (more than two years), effective and efficient contraception to postpone pregnancy for more than three years or to stop pregnancy in couples who do not want another child. Contraceptive

methods included in this group are sterilization, implant, and Intra Uterine Device (IUD).<sup>2</sup>

IUD contraception is very effective and long-term contraceptive method, but it is less desirable because insertion procedure is quite complicated and must be done by trained medical personnel. IUD is considered as a taboo because it has to be inserted into acceptor's genital; this is why women are often afraid during IUD insertion. IUD also has some complications or side effects

that cause uncomfortable feelings such as heavy menstruation, dysmenorrhea, and intermenstrual bleeding, which can cause anaemia. Perforation of the uterine wall may occur if insertion is incorrect. These side effects and complications decrease the number of IUD users. In some cases, side effects of IUD cannot be overcome with only administration of drugs, and in the end, acceptors will discontinue IUD.<sup>3,4</sup>

Drop out rate of IUD is 9.9%.<sup>5</sup> Reasons for non-compliance with IUD use are contraceptive failure, dissatisfaction, side effects, and lack of availability of birth control devices. The high rate of drop-out, failure and replacement of family planning tools indicate that improvement is needed in the provision of counselling services for potential users, follow-up services and wider service provision.<sup>1,2,6</sup>

Research conducted in Jakarta showed that from all acceptors who received counselling before and after IUD insertion, 90% still used IUDs in the first year, and 79% in the second year. Meanwhile, in other group receiving counselling only when there were any complaints, and the compliance rates were lower (52% and 29%). Low level of IUD usage is due to a lack of acceptors' knowledge about the advantages of this method. This is due to incomplete information provided by health care workers.<sup>7</sup> 10% of all dropout cases are due to fear of side effects and other health problems. A study in El Salvador in 2002 found that high levels of IUD non-compliance were caused by rumours, lack of attention during counselling and health worker's skills.<sup>8</sup>

This study aims to determine the level of compliance and factors influencing drop out of IUD acceptor at Mohammad Hoesin Hospital (RSMH) Palembang.

## METHODS

**Table 1.** General Characteristics of Study Subjects

Characteristic	IUD		P-value
	Yes	No	
Age (year), mean ± SD	27.23 ± 5.89	25.36 ± 3.982	0.318 <sup>a</sup>
<b>Age, n (%)</b>			
< 20	2 (7.1)	1 (9.1)	0,654 <sup>b</sup>
20-35	24 (85.8)	10 (90.9)	
>35	2 (7.1)	0 (0)	
<b>Residency</b>			
Downtown	28 (100)	11 (0)	1 <sup>c</sup>
Suburban	0 (0)	0 (0)	

This cross-sectional study was conducted in the Department of Obstetrics and Gynecology of Dr. Mohammad Hoesin Hospital Faculty of Medicine Universitas Sriwijaya, Palembang from May until December 2017. Sample of this study is women who use IUD contraceptives in the Department of Obstetrics and Gynecology Dr. Mohammad Hoesin Hospital and meet our inclusion and exclusion criteria. Single parents were excluded from the study sample. Medical counselling, knowledge, and side effects were assessed using a questionnaire. Based on validity and reliability test, this questionnaire was valid ( $p < 0.05$ ;  $r > 0.576$  ( $r$  table with  $n = 10$ ; 95% CI)) and reliable (Cronbach's alpha = 0.733). Data were analyzed by Chi square test using SPSS software version 17.

## RESULTS

During the study period, there were 60 mothers with a history of IUD use, 21 mothers could not be reached by phone, four mothers refused to participate in this study, and six mothers agreed to participate but did not attend the meeting. Finally, we obtained 39 women as research samples.

From 39 women, 28 women (71.8%) were still using IUD, while 11 women (28.2%) decided to remove IUD (drop out). Characteristics of the study sample are shown in table 1. Obstetric characteristics of the study sample are shown in table 2.

<b>Education, n(%)</b>			
Uneducated	0 (0)	2 (18.2)	0.150 <sup>b</sup>
Elementary school	6 (21.4)	3 (27.2)	
Junior high school	2 (7.1)	1 (9.1)	
Senior high school	17 (60.7)	5 (45.5)	
University	3 (10.8)	0 (0)	
<b>Employment, n (%)</b>			
No	6 (21.4)	1 (9.1)	0.649 <sup>c</sup>
Yes	22 (78.6)	10 (90.9)	
Total	28	11	

<sup>a</sup>Independent T Test, p= 0.05, <sup>b</sup>Pearson Chi-Square, <sup>c</sup>p = 0.05, <sup>d</sup>Fisher Exact, <sup>e</sup>p = 0.05

**Table 2.** Obstetric Characteristics of Study Subjects

Characteristic	IUD		P-value
	Yes	No	
<b>Number of pregnancies, n (%)</b>			
1	11 (39.3)	5 (45.5)	0.526 <sup>a</sup>
2-4	14 (50.0)	6 (54.5)	
> 4	3 (10.7)	0 (0)	
<b>Number of delivery, n (%)</b>			
1	13 (46.4)	6 (54.5)	0.639 <sup>a</sup>
2-4	13 (46.4)	5 (45.5)	
> 4	2 (7.2)	0 (0)	
<b>History of pregnancy loss, n, (%)</b>			
No	23 (82.1)	11 (100)	0.296 <sup>b</sup>
Yes	5 (17.9)	0 (0)	
<b>Number of children, n (%)</b>			
None	0 (0)	1 (9.1)	0.396 <sup>a</sup>
1	13 (46.4)	5 (45.5)	
2-4	14 (50.0)	5 (45.5)	
> 4	1 (3.6)	0 (0)	
<b>Contraceptive history, n(%)</b>			
Non IUD	2 (7.2)	6 (54.5)	0.003 <sup>b</sup>
IUD	26 (92.8)	5 (45.5)	
Total	28	11	

<sup>a</sup>Pearson Chi-Square, <sup>b</sup>p = 0.05, <sup>c</sup>Fisher Exact, <sup>d</sup>p = 0.05

In this study, all respondents both in drop out and non drop out group considered that they receive satisfactory counselling. Therefore, we can not analyze this variable.

**Table 2.** Association between Medical Counselling, Knowledge and Side Effects with Drop Out of IUD Acceptor

Characteristic	IUD			PR* (CI 95%)	P-value
	No.	Yes	Total		
<b>Counselling</b>					
Low	0	0	0	2.5454	1
High	11	28	39		
<b>Knowledge</b>					
Low	1	0	1	2.8 (2.232-6.469)	0.282
High	10	28	38		
<b>Side effects</b>					
High	3	18	21	4,800 (1.034-22.239)	0.041
Low	8	10	18		

\*Fisher Exact, p value = 0.05

Only one respondent (2.6%) in drop out group had low knowledge level, while in non drop out group 100% had high knowledge level. In Fisher Exact test, we found a relationship between knowledge level and drop out rate. Women with

low knowledge level were 2.8 times more likely to drop out than women with high knowledge level, but this relationship was not statistically significant (PR = 2,800; p = 0.282).

A total of 18 respondents experienced high side effects (46.1%), and 44.4% of them chose to remove IUDs. A total of 21 respondents experienced mild side effects (53.8,1%), and 14,2% of them chose to remove IUD. In the Fisher Exact test, we found a significant association between side effects and drop out rates. Acceptor experienced high side effects 4.8 times more likely to drop out than acceptors with low side effects (PR = 4,800; p = 0.041).

Twenty-eight respondents continued to use IUDs. The main reasons for IUD compliance were

medical conditions (32.14%), and the second most reason is because of its practicality. Eleven respondents decided to remove IUDs. The main reason for IUD removal was side effects (36.4%) and prohibited by husbands or families (36.4%).

From the Logistic Regression test, we concluded that side effects were associated with IUD dropout, women who had side effects were 4.2 times more likely to drop out compared to women without side-effects (Table 4). However, this relationship was not statistically significant ( $p > 0.05$ ).

**Table 4.** Factors Associated with IUD Drop out

Variable	Unadjusted*		Adjusted**	
	PR	P-value	PR	P-value
Medical counselling	2.545	1	-	-
Knowledge	3.800	0.282	<0.001	>0.999
Side effects	4.800	0.041	4.200	0.071

\*Chi Square test, \*\*Logistic regression

## DISCUSSION

We found that 28.2% of women decided to remove IUDs. This finding is higher than the national dropout rate of 9.9%.<sup>5</sup> Higher IUD dropout rates in this study may be due to the effect of sample selection. Our study sample is women in productive age who tend to be reluctant to choose long-term contraceptives; Influence of husbands and families is also important because Indonesia is a strong paternalistic country and husbands' participation during counselling sessions is still very rare besides that, our study sample is small and may not be representative of the actual population.

Based on respondents' characteristics, there were no differences in age, education and occupation between drop out and non-drop out group (p value >0.005). We also found no significant association between obstetric history and IUD compliance.

Many studies have shown that medical counselling is important in improving acceptors' compliance in the selection and use of IUD. A study in Jakarta showed that 90% of family planning participants who received counselling before and after IUD insertion still used IUD in the first year, and 79% in second years. Study in Sri Lanka also showed that family planning participants who received counselling had lower

IUD drop out rate than those who did not receive counseling.<sup>7</sup> This study showed that if patients were satisfied with services provided by health workers, their compliance would increase. In this study, all respondents both in drop out and non drop out group considered that they satisfied with counselling provided by the health workers. So we can not conclude whether medical counselling affects acceptors' compliance of IUD usage. This finding is similar to study which found good quality of medical counselling and attitudes toward contraceptive support at RSMH, in both physicians and midwives.<sup>9</sup>

Almost all study respondents in both groups had a high level of knowledge. This may be related to good medical counseling, which provides adequate information to IUD acceptors. We did not find any significant relationship between levels of knowledge with compliance of IUD use ( $p > 0.05$ ). Research by Utamiet a in Postpartum ward of RSUP DR. M. Djamil showed a significant correlation between knowledge with the unmet need of post partum contraception and post-placental IUD. In general, unmet need for post-placental IUD do not know that IUD can be installed within 10 minutes after delivery.<sup>10</sup> It is not known whether knowledge of our respondents is correlated with the level of education and medical counselling, so further research is needed to analyze the association between knowledge of respondents before and after medical counselling about IUD.

Side effects of contraception can directly influence the continuity of contraceptive use. Juliaan suggests that the main reason for couples of childbearing age do not use contraception is due to contraceptive side effects. This study found a significant association between IUD side-effects and IUD compliance. If IUD side effects are high, IUD acceptors tend to discontinue IUD usage. This finding, when added to the result of a good level of knowledge, indicates that IUD acceptor at RSMH is critical in IUD use. Nevertheless, multivariate analysis did not find a significant association between medical counselling, knowledge, and side effects with IUD compliance.

In addition to side effects of IUD, support of husbands and families is critical to IUD compliance. Support and attention of the husband to his wife will have a positive effect on the marriage relationship. Although the woman has requested permission from her husband to use certain contraceptives, if a complaint arises such as vaginal discharge or discomfort during intercourse, man tends to encourage women to stop using contraceptives.<sup>11,12</sup>

On the other hand, the main reason for IUD compliance is medical conditions, particularly preeclampsia. This indicates that there is a "compulsion" factor to use IUD besides good medical counselling and woman's level of knowledge. Further research is needed to examine this factor, especially the support of husbands and families.

This study has not been done in RSMH Palembang, and similar studies are still rarely done in other regions in Indonesia. Results of this study are expected to be used as a reference for further research in other regions. This study has several limitations, including small sample size due to study time limitation, and did not include other variables that may contribute to compliance of IUD use such as husband and family support.

### CONCLUSION

There was a significant relationship between side effects and compliance of IUD use, and there was no significant correlation between knowledge and medical counselling with compliance of IUD.

### SUGESSTION

The best suggestion is giving from this research that husband and family must be involved in the counselling of IUD. Further study with bigger sample size, and examine variables such as consellor, husband and family's role, and influence of economic status, believe and religion is needed in the future.

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