

Antenatal Contraceptive Counselling and Postpartum IUD Use: Evaluation of Contraceptive Service in Tertiary Hospital in Indonesia

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Abstract

Background: Effective contraceptive use is one of a measure of decreasing maternal mortality rate. The low contraceptive prevalence rate of the IUD as a LARC is partly caused by a lack of knowledge regarding the method. Antenatal contraceptive counselling is considered a potential factor in increasing the use of postpartum IUD. Though it has been a part of routine service, the effectiveness of antenatal contraceptive counselling in our center was seldom studied.

Methods: Seventy women who underwent antenatal care in the third trimester in our center were enrolled in the study. Contraceptive counselling was given integrated with antenatal care visits. A questionnaire for measuring knowledge, attitude, and contraceptive choice was given before and after contraceptive counselling. Postpartum contraceptive method usage was evaluated after birth.

Results: Fifty eight women were enrolled and included in the final analysis. Before counselling, only 39.7 percent of subjects had a good level of knowledge, and 36.2 percent subjects had a good level of attitude. While after counselling 75.9 percent of subjects had a good level of knowledge and 72.4 percent subjects had a good level of attitude. Before counselling, IUD uptake was only 15.5 percent, while post-counselling, 77.6 percent of subjects chose and used IUD as their post-partum contraceptive method.

Conclusion: Contraceptive counselling given antenatal can increase postpartum IUD use.

Keywords: antenatal contraceptive counselling, IUD, knowledge, attitude, contraceptive choice.

INTRODUCTION

The maternal mortality rate in Indonesia based on SUPAS 2015 is still very high at 305 deaths per 100.000 live births.¹ Effective contraceptive use can be used to decrease maternal mortality rate, playing a role in reducing the “too young, too old, too many, and too close”.²⁻⁴ Unfortunately, in Indonesia, use of long acting contraceptive is still very low. Intrauterine device (IUD) as one of the long acting reversible contraceptive (LARC) has only 6,8% prevalence rate.⁵⁻⁷ Lack of public

knowledge regarding IUD and also some misperception are thought to be one of the causes.^{8,9,10}

Contraceptive counselling which facilitates communication between provider and client considered as a potential major factor in encouraging the use of effective contraceptive.¹¹ A multicenter study by Smith et al (2002) found benefit in counselling given during the antenatal period.¹² Through counselling, provider can give information and education that might affect clients' choice of

contraceptive method,⁵ and also increase effective use of contraceptive.¹³

Though contraceptive counselling has been a standard component in maternal health service, its' effectivity is seldom studied. In our center, which is a tertiary and also a teaching hospital, routine antenatal contraceptive counselling service was yet to be studied. Therefore the current study intended to determine the impact of antenatal contraceptive counselling in determining the use of postpartum IUD.

Methods

A one group pre-test post-test design study was conducted in July 2020 – December 2020 at Cipto Mangunkusumo general hospital. A questionnaire was developed and underwent validity and reliability tests. Approval from the Institutional Ethics Committee was obtained before initiating the study.

Seventy women in third trimester pregnancy that underwent antenatal care and planned for delivery at our center was recruited. Subject signed informed consent form as agreement to join the study. Women with known relative and/or absolute contraindication or medical eligibility criteria III or IV were excluded. While subject that cancel labour at our center, or end up using the permanent contraceptive method (sterilization) were dropped out.

Counselling was provided using a standardized protocol of GATHER, with comprehensive education on provider previously given as part of module for residents. Counselling given at antenatal period, integrated with antenatal care visit, with duration of minimum 15 minutes.

After obtaining informed consent, the subjects were asked about their choice of contraceptive method prior to counseling. Subject then given questionnaires about knowledge and attitude of contraceptive method and IUD. After counselling, subject filled another questionnaire of knowledge and attitude. The choice and use of post-partum contraceptive use was evaluated from medical record after birth.

The data was analysed using SPSS. We compare level of knowledge, attitude, and choice of post-partum contraceptive method before and after counselling.

Results

Seventy women were screened for eligibility criteria of the study. Six of these women did not proceed labour in our center, and another six choose permanent contraceptive method, resulting in 12 drop out subjects. This resulted in a total of 58 eligible subjects included in the final analysis.

Demographic characteristic

Subjects enrolled in this study have mean age 29,26 years old. Majority of the subjects planned to have more child in the future. Most subjects have an intermediate educational background. Around 79 percent subjects are a housewife. Only one subject with no health insurance. About 91,4 percent subject never uses an IUD before. Subjects' demographic characteristic and their contraceptive choice presented in table 1.

Table 1 *Demographic characteristic and postpartum contraceptive choice*

	N (%)	Postpartum contraceptive choice		
		IUD N (%)	Others (non LARC) N (%)	P
Age (year)				
<20	2 (2,9)	2 (100)	0 (0)	0,168
20-35	46 (65,7)	36 (81,8)	8 (18,2)	
>35	16 (22,9)	8 (66,7)	4 (33,3)	
Reproductive plan				

Plan to limit child	16 (27,6)	15 (93,7)	1 (6,3)	0,082
Plan to have child	42 (72,4)	30 (71,4)	12 (28,6)	
Education				
Elementary	3 (5,2)	2 (66,7)	1 (33,3)	0,662
Middle school	8 (13,8)	8 (66,7)	4 (33,3)	
High school	34 (58,6)	27 (87,1)	4 (12,9)	
University/college	13 (22,4)	46 (79,3)	12 (20,7)	
Work status				
working	12 (20,7)	8 (66,7)	4 (33,3)	0,308
Not working	46 (79,3)	37 (67,4)	9 (32,6)	
Gravida				
Primigravida	22 (37,9)	21 (95,5)	1 (4,5)	0,964
Multigravida	36 (62,1)	25 (69,4)	11 (30,6)	
Paritas				
Nullipara	25 (43,1)	23 (95,8)	1 (4,2)	0,456
Primipara	22 (37,9)	17 (81)	4 (19)	
Multipara	11 (9,0)	6 (46,2)	7 (53,8)	
Abortus				
0	47 (81,1)	40 (85,1)	7 (14,9)	0,05
1	7 (12,1)	4 (57,1)	3 (42,9)	
>1	4 (6,8)	2 (50)	2 (50)	
Live child				
0	26 (44,8)	24 (88,9)	3 (11,1)	0,551
1	22 (37,9)	17 (85)	3 (15)	
>1	10 (17,2)	6 (54,5)	5 (45,5)	
Health financing				
Insurance	57 (98,3)	1 (100)	0 (0)	0,558
Personal fund	1 (1,7)	45 (78,9)	12 (21,1)	
History of IUD use				
(+)	5 (8,6)	4 (80)	1 (20)	0,892
(-)	53 (91,4)	41 (73,2)	12 (26,8)	

Knowledge and Attitude regarding IUD

In this study we found 25 point increase in knowledge score median and 6,7 point increase in the attitude score median. Both of these increase is statistically significant. On table 2

presented subjects distribution based on level of knowledge and attitude pre and post counselling. An increasing number of subjects with a good level of knowledge and attitude was found.

Table 2. *Pre and post counselling level and score of knowledge and attitude regarding IUD*

		Pre-counselling	Post-counselling	P
Level of knowledge	Poor	25 (43,1)	3 (5,2)	0.000
	Medium	10 (17,2)	11 (19,0)	
	Good	23 (39,7)	44 (75,9)	
Knowledge Score	(median ± SD)	58,3 ± 24,09	83,3 ± 16,05	0.000
Level of attitude	Poor	1 (1,7)	1 (1,7)	0.000
	Medium	36 (62,1)	15 (25,9)	
	Good	21 (36,2)	42 (72,4)	

Attitude score	(median ± SD)		
		68,3 ± 8,6	75,0 ± 8,14
			0.000

Post-partum contraceptive choice

On table 3 we present subjects distribution based on postpartum contraceptive choice before and after counselling. Found increased number in subjects that chose IUD (62,1 percent) after counselling.

Table 3. *Postpartum contraceptive choice pre and post counselling*

Postpartum contraceptive method	Pre-counselling n (%)	Post-counselling n (%)	p
IUD	9 (15.5)	45 (77.6)	0.000
Others (non LARC)	49 (84.5)	13 (22.4)	

Analysis of demographic characteristic and contraceptive choice

We intended to get rid of bias from demographic background, so we analyzed the possible influence of demographic characteristic to postpartum contraceptive choice. From table 1 also seen bivariate analysis of each demographic characteristic that might influence contraceptive choice. Of these variables, three variables have $P < 0.25$ and further included for multivariate analysis. From this analysis found abortus OR 6.64 (1.36-32.49) and reproductive plan (OR 0.47 (0.00-0.99) as variable that influence contraceptive choice.

Discussion

Contraceptive counselling is a standard component of maternal healthcare that is unfortunately seldom evaluated.^{11,13,14} Based on a study by Cavallaro et al, some of the outcome to measure when evaluating a contraceptive counselling, are¹⁵:

1. Increase in contraceptive uptake
2. Continuous use of contraceptive method

3. Clients' method and counselling service satisfaction

In this study, we evaluated based on uptake and direct indicator of counselling which are knowledge and attitude change.

Ideally, to evaluate an intervention, a study with control, randomization, and blinding is needed. Due to the nature of the intervention, and the purpose to evaluate the ongoing practice of counselling, we conduct a one group pre-test post-test design study.

Demographic characteristic

In this study, subjects' mean age is 29,2 years old, which are older than findings in previous studies by Gutin (2011) and Bajracharya (2015) which are 26 and 25,8 years old respectively.^{10,16} Though from distribution, most subjects belong in 20-35 years old group, findings similar with a study by Chhabra (2016) and Zapata (2015).^{13,17}

About 72,4 percent subjects plan to have more child, and 71,4 percent of these subjects chose IUD as postpartum contraceptive method. Based on studi by Bhandari (2014), reproductive plan play a role in determining contraceptive method.¹⁸ Most of the subjects (total 72,4 percent) have intermediate educational background (consisting middle school and high school). It reflects in initial level of knowledge finding which shows only small number have 'good' result. It corresponds to study by Kamal (2015) and Frost (2008), which found higher educational background related with higher contraceptive uptake and also continuous usage.^{19,20} There was only one subject with personal fund as health care financing source, therefore no further analysis can be performed. Even though as many as 91,4 percent subjects never use IUD before. Based on proportion analysis, we figured that postpartum IUD use was still found higher in subjects with previous history of IUD usage vs subjects without such history, 80 vs 73,2 percent. Based on study from Frost (2008) and

Aiken (2016), history of IUD use would encourage a repeat use of IUD.20,21

Demographic characteristic and contraceptive choice

Based on the bivariate analysis, three variables: age, abortus, and reproductive plan considered eligible for further multivariate analysis. From multivariate analysis, we found abortus and reproductive plan considered able to influence contraceptive choice in this study. Finding in this study suggest subject with a history of abortus tend to choose other contraceptive methods (non LARC); meanwhile subjects who plan to have a child encourage the use of IUD. These findings are different from a previous study by Gashaye (2020), which found that history of abortus and plan to limit child increase the use of LARC.22

We consider this difference is due to the different characteristics of the study population. Antenatal period confronts subjects to pregnancy spacing phase or pregnancy limiting phase. In our study, as many as 91 percent of subjects are nullipara or primipara, therefore explaining the choice of long-acting reversible contraceptives. At the same time, our study population also includes patients who underwent antenatal care at high-risk obstetric clinics, together with patients with a bad obstetric history. While subjects might want to space their pregnancy, the will to have a child sooner might encourage them to use non long acting contraceptive methods.

Pre and post counselling knowledge and attitude level

In this study, we found that subjects' level of knowledge pre-counselling is mostly poor and medium. This corresponds to findings from a previous study stating lack of knowledge regarding contraceptives, specifically IUD.10 Increased mean score of 25 points and number of subjects with 'good' level of knowledge were observed post-counselling. This finding corresponds to findings from previous studies that affirm counselling increased knowledge regarding contraceptives.23-25

We also found increase in attitude score and level of attitude from 'medium' to 'good' post counselling. This corresponds to finding from Pasaribu (2018) of increase in attitude score after counselling. Khan (2013) suggested increased in attitude towards contraceptive, will also increase effective use of contraceptive method.23,26

Post-partum contraceptive choice

Pre-counselling only 15,5 percent subjects choose IUD, while after counselling 77,4 percent subjects choose IUD as postpartum contraceptive method. Based on study by Gutin (2011) and Danielle (2017) the low contraceptive uptake before counselling was caused by misplaced fear and lack of understanding regarding contraceptive method. There was a huge increase in uptake found in this study. This finding corresponds with a study by Smith (2002) and Zapata (2015) that stated counselling increased contraceptive uptake.10,12,13,27

Although the study has significant findings, limitation of the study includes no comparison of counselling method with tools, no assessment of the frequency of counselling and involvement of male partners, also no follow up regarding retained knowledge, attitude, and compliance of contraceptive use.

Conclusion

Most subjects have less than good knowledge and attitude before counselling. After counselling, the level of knowledge and attitude increased to 'good'. Contraceptive counselling given antenatal can increase postpartum IUD use.

Ethical Clearance

The study got ethical approval from Health Research Ethical Committee Faculty of Medicine Universitas Indonesia – Cipto Mangunkusumo General Hospital, and location permit from Innovation and Intellectual Property Management of Cipto Mangunkusumo General Hospital

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