



Determinant of Intrauterine Contraception (IUD) Election on Couples of Childbearing Age

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Abstract

The crucial problem in Indonesia is a population explosion, that induced Government to make a program called family planning (FP). It has the vision to be a qualified family that safe healthy, advance, independent, and has the ideal child with the brilliant concept, responsibility, harmony, and religious. The research aimed to study the determinant related to the election of intrauterine contraception tools in UPT II Region of Banjar regency in 2014. The research used case-control design with retrospective approach. Samples were 206 respondent that divided in 103 (IUD acceptor) and 103 (non-IUD acceptor). Statistic analysis used the chi-square and logistic regression. The variables that related to the election of IUD contraception on couples of childbearing age were age, education, parity, FP services, husband support, knowledge, application cost ($p < 0.05$), and the non-related variables were an occupation and economic status. Based on logistic regression test, the most related factor to an election of IUD contraception on couples of childbearing age was education with the p -value 0.000 and odds ratio (OR) 5.971. It meant that couples of childbearing age with the higher education have 5,9 times higher to have an opportunity to use the IUD contraception, after controlling for the variable of husband support, as well as age, parity becomes confounding variables.

Keywords: *couples of childbearing age, family planning, IUD methode, education, age, husband support*

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INTRODUCTION

One of the most important problems faced by developing countries such as in Indonesia is the population explosion that is resulting in rapid population growth. This is because of the lack of knowledge and power patterns in the local community. To overcome these problems, Indonesian government had implemented Family Planning Program (FP).

Saifudin stated that family planning is the most basic and primary preventive health service, the main reason is needed (1). Family planning aims to prevent maternal mortality and morbidity, which mean protecting families against high-risk of pregnancies. Family planning can save lives and reduce morbidity due to pregnancy and childbirth, are the method of delaying temporary pregnancy and controlling

population growth, regulating birth spacing, and the ideal age of childbirth.

Data obtained from the BKKBN of South Kalimantan Province in 2012 reported that were among 127,117 fecouples of childbearing age, as much as 57.32% used contraceptives, most of them used injection (30.67%), pills (29.5%), IUD (4.7%), implant (3.2%), condom (0.7%), MOP (0.0%) and other methods (0.3%). These data sources illustrated that the number of women using hormonal contraceptives was greater than that of non-hormonal use, contrary to the policy and strategy of BKKBN in extending the range of high-effectiveness and long-term family planning services (2).

BPKBN report of Banjar Annual District about the achievement of new KB with type of IUD method from 2010 as much as 1.9%, 2011 was 1.2%, in 2012 as much as 0.97%, 2013 was 0.91, in 2014 as much as 0.17% . Banjar Regency consists of 20 sub-districts, and it was divided into 5 UPT Areas, where the data of IUD method in UPT Region I, II, III, IV, V achieves 181 (1.9%), 103 (0.5%), 957 (3.8%), 311 (1.7%), 192 (1.7%) respectively. Based on the data, the lowest IUD method user was in UPT region II compared to other UPT areas in Kabupaten Banjar.

The low use of the IUD could be caused by various factors, as Yulizawati points out, that increased use of the IUD can be done by emphasizing the change in the attitude factor of the fertile couples. Policies and decision-making and budgeting for IUDs might also be considered (3). While Bernadus's research results stated that the the age factor, education, knowledge, service tariff, partner's approval, and culture had a relationship with IUD selection, and the most important factors was the education (4).

The purpose of this research was to know the determinant of election of IUD method on couples of childbearing age in UPT region II Regency Banjar South Kalimantan year 2014.

MATERIALS AND METHODS

This research used Case Control design with "retrospective" approach. Data retrieval period was conducted in May-July 2015 in UPT area II consisting of Gambut, Tabuk and West Martapura, Banjar, South Kalimantan. Population in this research was all couples of childbearing age which become acceptor of family planning. It was 18.774 acceptors. Obtained sample number was 206. It was divided into case group (IUD acceptors) and control group (non FP acceptor), each of them was 103 acceptors. The number of acceptors of the IUD method of 103, all taken into the sample case group. The ratio was 1:1.

Questionnaire was used in this research. The validity and reliability test of the instrument was performed on 30 respondents who were not samples and had the characteristics almost the same as the samples. The validity test in this study used Pearson Correlation test by comparing the r-count value of each question item with r-table at the 5% confidence level of 0.361 when $R\text{-count} > R\text{-table}$, the question item in the instrument was valid. The reliability test was done by comparing the value of Cronbach Alpha with a standard value of 0.6. The Cronbach Alpha > 0.6 , meant that the question was reliable. The reliability test results of questionnaire for quality variable of KB service, husband support, and knowledge were all valid. The result of reliability test of service quality variable of family planning had the value of Cronbach Alpha equal to 0,646 ($> 0,6$), therefore the instruments was declared reliable. In the result of reliability test of husband support variable got Cronbach Alpha value 0,809 ($> 0,6$), it was included in reliable instruments. While the reliability test results of the variable knowledge obtained Cronbach Alpha value of 0.830 (> 0.6), the research instrument was considered reliable. Bivariate analysis was used to examine the association of risk factors for the use of the IUD method and to determine the risk (odds ratio). Multivariate analysis that was

done by statistic test used Logistic Regression analysis.

RESULTS AND DISCUSSION

Results of Bivariate Analysis

Bivariate analysis aimed to know whether there is a relationship between age, education, employment, economic status, parity, family planning, husband support, knowledge, and usage cost and variables of contraceptive contraception using statistical test with chi-square and significance level of $\alpha = 0.05$. The results were presented in **Table 1**.

Based on **Table 1**, there was a significant correlation between age and choice of IUD method, with ($p = 0,021$). It can be concluded that there was a positive correlation between age and IUD contraceptive selection. The OR value

of 2,178 meant that couples of childbearing age had a chance of 2.7 times to use contraceptive IUD compared to couples of childbearing age with younger age. This also fitted to the theory (5), that said age is one factor that has the effect on one's behavior in the use of contraception. The older the age, the greater the chance to use contraception. This was different from the results of Jurisman's research which stated that the age was not related with the selection of contraceptives (6).

In the education variable, p-value of 0,000 was obtained, so there was a significant correlation between education and contraceptive use of IUD. The OR of 5,971, meant that the couples of childbearing age who have higher education level had 5.9 times greater to chance IUD. Theoretically, formal education greatly

Table 1. Relationship between Age, Education, Employment, Economic Status, Parity, Family Planning Service, Husband Support, Knowledge and Cost of Respondent Usage with IUD Method Selection in Banjar District of South Kalimantan 2015

Variable	Selection of IUD methods				p-value	OR (95% CI)
	Use		do not use			
	n	%	n	%		
Age						
> 35	31	30.1	17	16.5	0.021	2.178
≤ 35	72	69.9	86	83.5		(1.115-4.253)
Education						
High	35	34	10	9.7	0.000	4.787
Low	68	66	93	90.3		(2.218-10.330)
Employment						
Work	25	24.3	22	21.4	0.618	1.180
Does Not Work	78	75.7	81	78.6		(0.615-2.265)
Economic status						
High	50	48.5	57	55.3	0.329	0.761
Low	53	51.5	46	44.7		(0.440-1.317)
Parity						
Multiparous	51	49.5	30	29.1	0.003	2.387
Primipara	52	50.5	73	70.9		(1.344-4.238)
FP services						
Good	69	67	46	44.7	0.001	2.515
Not Good	34	33	57	55.3		(1.429-4.426)
Husband Support						
Strong	90	87.4	65	63.1	0.000	4.047
Weak	13	12.6	38	36.9		(1.998-8.199)
Knowledge						
Good	38	36.9	22	21.4	0.014	2.152
Less	65	63.1	81	78.6		(1.160-3.994)
Cost						
Cheap	40	38.8	26	25.2	0.037	0.532
Expensive	63	61.2	77	74.8		(0.293-0.965)

Source: Primary Data Year 2015

affects the knowledge of a person, where someone with high education will have higher knowledge, whereas people with low formal education will have lower knowledge. A highly educated person is expected to more easily and quickly understand the importance of health and make choices. This was in line with Bernadus and Jurisman's research that found an association between education and IUD contraceptive selection. Highly educated respondents more likely to choose IUD than those with low educated respondents (4,6). In contrast to Wulandari research, there was no significant relationship between education and IUD family participation (7).

In the employment variable there was no relationship between the work of respondents with the selection of IUD methods. This was in line with Bernadus's research, at the Jailolo eteori Community Health Center. It found that people's occupation did not affect acceptors in contraceptive selection, especially the IUD, because this contraception did not interfere with daily activities (4).

The test result using chi-square test for economic status variable got value of 0,329 that showed no significant relation between economic status of respondent with the selection of IUD method. The results of this study were in line with the results of Intan Pradini's research, which stated that there was no relationship between the economic level of the family with the choice of contraception (8). In a study conducted in Kabupaten Banjar, couples of childbearing age using IUD method did not look at the economic status. There was almost the same number of respondents that used and not used IUD method in high-status class, those were 48% and 53%, because they have understood about the advantages about using IUD.

respondents, 48% high-status respondents using the IUD method while those who did not use the IUD method were 55.3%. Because they

understand the advantages and disadvantages of using IUD contraceptives properly. we know that the economic status can be used as a reference lifestyle family, where if the family has a high ability so as not to question the needs of children in support of growth (9).

In this research, p-value was 0,003 for parity variable. It can be concluded that there was a relationship between parity with IUD contraceptive contraception, with OR 2,387. It meant that couples of childbearing age with higher parity had 2.3 times greater to use the IUD method compared to a small parity (primipara) who tend to use short-term contraceptives. This indicated that the relationship was positive. It meant that when the respondent was multiparous, there was an increase in the use of the IUD, and vice versa. The IUD method had a higher effectiveness than other contraceptives, in that multiparous mother want to had no failure in contraception that will lead to pregnancy that resulting in having many children. However, primipara mothers planned to have more children, so that they more likely to use short-term contraception. In a study conducted in Kabupaten Banjar, the number of multiparent respondents using IUD method was 49.5%, while those who did not use the IUD method was 29.5%. This is also in line with Pastuti's research that there was a significant relationship between the number of children / parity with the IUD method of exposure. In different explaining it can be said if a person has reached the desired ideal number of children, they will encourage to limit the birth that resulting in using the Long-term contraceptive methods (10). This result was also supported by the results of Aldriana's which stated that the number of live children was related to the use of an IUD (11).

In this research, p-value was 0.001 for family planning service. It can be concluded that there was a relationship between family planning service with the choice of IUD method, with OR 2,515. It meant that couples of childbearing

age that assessed good family planning service had 2.5 times more chance large to use IUD methods. The relationship was positive, which has the meaning that in a good family planning the use of IUD method had increased, and vice versa. The results of this study were in line with the results of the Pitriani study, which stated that one of the variables associated with the use of IUD contraception was the role of health personnel (12). In a study conducted in Kabupaten Banjar showed that when there was a good quality of family planning service, the number of respondents using the IUD method as much as 69 (67%). This happened because good family planning services were supported by health workers who had good knowledge and attitude in the service. It could improve the knowledge and understanding of infertile couples in using the IUD method. By sharing a positive attitude from the health worker to a low-knowledge mother, could lead to increase in the use of an IUD (11).

The results showed that there was a relationship between the support of the husband with the selection of IUD. When the husband's support were stronger, there was the increase in using IUD method. Previous study in Kabupaten Banjar showed that 87.4% of respondents with strong husband support tended to use the IUD method. Strong husband support will give the informational, instrumental, and emotional support that could have positive attitude in wife to use IUD contraceptives. Contraception can not be used by wives without husband's cooperation and mutual trust. Ideally husband and wife should choose contraception and pay attention to the danger of usage, pay the cost of contraceptive usage. In that situation, the man still control in decision making in many thing, one of them is contraception (2,13).

In the knowledge variable, the p-value was 0,014. It can be concluded that there was a correlation between knowledge with the choice

of IUD method, with OR 2,152. It meant that couples of childbearing age who assess good knowledge had 2.1 times greater chance of using contraception IUD than that of whose knowledge is lacking. The relationship was positive, in meaning that the good knowledge related to the increased use of IUD methods, and vice versa. The research was in line with Nawirah's research that reported knowledge had a connection with the choice of contraceptive IUD, because the more knowledge of the respondent, the higher the awareness of the respondent using the contraceptive IUD. They knew that contraceptive IUD was more effective than the other types of contraception. It was in line with the results of Apriliya research, which got $p = 0,000$, where there was a significant relationship between knowledge with the choice of contraceptive IUD (14,15). The IUD can be effective immediately after insertion, long-term method (10 years of protection and no need to be replaced), does not affect sexual intercourse, and does not affect the quality of breastfeeding (16). Knowledge of the types of contraceptive devices and drugs, side effects, contraindications, advantages and disadvantages is necessary for contraceptive users to use contraceptive devices based on rational, effectiveness and efficiency (17).

In the variable cost, p-value was 0,037. It can be concluded that there was a relationship between the cost asesment with selection of methods IUD, with OR 0.537, which means that couples of childbearing age which stated the lower of usage cost had chance of 0.5 times more to use IUD methods rather than that of the higher cost of usage. The relationship was negative. It meant that when there is cheaper cost of usage, the use of IUD method will be increased. It can be assumed that the higher the average income of the family per month, the gerater the purchasing power of respondents. The law of the market indicated that better contraceptive services at the right price would attract more clients, whereas in

social marketing of family planning, costs were also associated with the use of contraceptive services. The more expensive the costs, the more affect to the reach of prospective acceptors, the more limited access the acceptor candidates to visit the facilities and the health service (18).

Multivariate Test Results

Multivariate analysis was performed to determine the most dominant factor in IUD method in couples of childbearing age. It was conducted as further analysis by using simple logistic regression test. If the result of bivariate selection analysis yields p-value <0.25, the variable is analysed directly to the multivariate stage.

Based on the results of the analysis in **Table 2**, it is found that the dominant variable in this study was education with an OR of 5.971 which

meant that couples of childbearing age with higher education had 5.9 times more chance to use the IUD method. Once controlled by husband support variables, and variables age and parity into variable confounding. This was in line with the results of Handayani's research, which stated that there was a relationship between the level of education of fertile couples with contraceptive contraception (19).

The decision in the use of IUD methods was inseparable from one's insight that can be obtained from a person's formal education level. It was also expected that a mother of higher education was able to communicate better with her husband when discussing about contraception that is more fortunate for the mother. It was assumed that the high level of education of a mother could affect the husband's decision

Table 2. Results of Multivariate Logistic Regression Modeling

Stage	Variable	p-value	OR	Change OR
Full model	Age	0.350	1.565	
	Education	0.000	5.699	
	Parity	0.386	1.410	
	FP Service	0.105	1.728	
	Husband Support	0.000	4.450	
	Knowledge	0.348	1.646	
	Cost	0.835	0.906	
I	Age	0.271	1.627	3.962
	Education	0.000	5.726	0.473
	Parity	0.322	1.449	2.766
	FP Service	0.107	1.717	-0.636
	Husband Support	0.000	4.409	0.921
	Knowledge	0.308	1.495	2.117
II	Age	0.099	1.941	19.299
	Education	0.000	5.783	0.995
	FP Service	0.080	1.790	4.251
	Husband Support	0.000	4.455	1.043
	Knowledge	0.211	1.615	8.026
III	Age	0.177	1.786	8.675
	Education	0.000	5.841	1.002
	Parity	0.220	1.564	7.936
	FP Service	0.070	1.820	1.675
	Husband Support	0.001	4.194	5.858
IV	Education	0.000	5.732	-1.866
	Parity	0.037	1.967	25.767
	FP Service	0.098	1.711	-5.989
	Husband Support	0.000	4.211	0.405
Final step	Age	0.260	1.615	
	Education	0.000	5.971	
	Parity	0.121	1.741	
	Husband Support	0.000	4.967	

Source: Primary Data Year 2015

if there were some husbands who disagree with the choice of wife in choosing contraception. It was also hoped that high-educated mothers could find the information from advertising media or through health services. However, Hartanto said that contraceptive method could not be used by wife without husband's cooperation and mutual trust. Ideal circumstances that married couples should jointly choose the best method of contraception, mutual cooperation in use, paying expenses for contraception and taking into account the danger signs of wearing (2).

CONCLUSIONS AND SUGGESTIONS

Based on the results and discussion, it could be drawn conclusion that the variables associated with the selection of IUD methods were age, parity, family planning services, husband support, education, knowledge, cost. The dominant variable in this study was education, while the variables that were not related to the selection of IUD methods were employment and economic status.

The suggestion is that family planning service officers provide insights into deeper contraception to the community, so that they can participate in targeted, planned and sustainable health activities. Communities are formed to know the advantages and disadvantages of each contraceptive device that will be used them, and is expected to use long term FP method, especially IUD method that will increase every year.

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