WOMEN'S INFLUENCING FACTORS IN CHOOSING THE IUD CONTRACEPTION METHOD

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Abstract

The use of long-term contraception especially the Intra-Uterine Device (IUD) in Indonesia is still relatively low, one of which is West Java. Factors that influence the use of IUDs are sociodemographic, sociopsychological, and knowledge about family planning, but information about these factors is still limited in West Java. The purpose of this study was to determine the effect of sociodemographic factors, sociopsychology, and the level of knowledge about the IUD in women at Lembang District, West Bandung Regency, which is part of West Java Province. This quantitative research applied a case-control approach. Samples were selected by the *Multistage random sampling* technique, it divided into cases and control groups totaling 108 respondents. Data collection used a questionnaire. *Bivariate* statistical analysis was *the Chi-square* test, multivariable analysis was the Multiple Logistic Regression analysis. The results showed a significant influence of these factors on the choice of the IUD method including Sociodemographic factors: education (value $p = 0.013$), employment (value $p = 0.014$); Sociopsychological factors: perception of the ideal number of children (value $p = 0.037$), husband and wife communication (value $p <0.001$); knowledge factors about the benefits of the IUD, side effects of the IUD (value $p <0.001$) and side effects of the IUD (value $p = 0.033$). Multivariable analysis results showed that the working status was the most influential factor in choosing the IUDs in Lembang District (OR = 2.99 (95% CI): 2.49 (1.14-7.89). It is expected that health workers reactivated the program to increase knowledge in the community so it would change the perspective of women in choosing the IUD contraception method.
Keywords: Factors, IUDs, knowledge, sociodemography, sociopsychology.

INTRODUCTION

The results of statistical data in 2011 presented that the population of Indonesia reached 241 million people. This population is predicted continues to increase, and in 2035 is expected to reach up to 305, 6 million. In 2010 the population of West Java was 43.2 million and this number is expected to continue to increase to 57.1 million in 2035. (BPS, 2012) Based on the West Java Province BKKBN data, in May 2013, the active contraception program's participants showed that the IUD contraception method had fewer users compared to the injection and pill method. The IUD was 834,907 acceptors (11.83%), injections 3,668,128 (51.98%) and pills as many as 1,874,016 (26.56%). (BKKBN, 2013)

Factors related to the selection of contraceptives according to Bertrand are sociodemographic factors, sociopsychological factors, and factors related to health care. (Bertrand, Jane T, 1980. According to the BKKBN factors considered to influence contraceptive choice are the negative perception of one contraceptive due method to lack of education from health workers, the limited number of health workers who are trained to

perform medical procedures services IUD, and the availability of facilities for IUD services (Witjaksono, 2013)

According to Handayani, several factors influence a woman in choosing an IUD method, including the level of education, knowledge, economy, service rates, partner approval, and culture (Handayani, 2010). Research conducted by Berdanus et al on the factors related to the selection of an IUD in Jailolo Manado Health Center found that age, education, knowledge, service rates, partner consent, and culture had a relationship with the choice of IUD method and the most important factor was education. (Bernadus DJ, Agnes M, Johana MG, 2013). Limited information about the selection factors for the IUD method in West Java. The purpose of the study was to determine the influence of sociodemographic factors, sociopsychology, and the level of knowledge to women in choosing the IUD contraception method in Lembang District, West Bandung Regency.

METHODS

This quantitative study applied the *case-control* research design. The population in this study consisted of women aged 15-49 years old, married, active users of non-IUDs methods, and residing in the District of Lembang, West Bandung Regency. The sampling technique was *multistage random sampling*. The sample consisted of 108 respondents in the case group and 108 respondents in the control group. Data collection was carried out by filling out questionnaires. The questionnaire assessed the age, level of education, employment status, number of children, perception of the ideal number of children, husband and wife communication, and knowledge. Data analyses were a statistical test that included a *chi-square* test, to analyze the relationship between two categorical data variables, and the multiple logistic regression test was used to analyze the most related factors to the selection of IUD contraception. Variables in the *bivariate* analysis had p values <0.25. In the process of multiple logistic regression tests (initial and final stages). The degree of the *odds ratio* (OR) and 95% *confidence interval was* considered significant if the value of p <0.05.

RESULTS

Sociodemographic Factors that Influenc2 Women to Choose IUD Contraception method.

Table 1 Sociodemographic Factors

No	Variable	Group				Value	OR
		No IUD		IUD		p	(95% CI)
		N	%	N	%		
1.	Age						
	Productive ages	66	61.1	64	59, 3	0.781	1.04 (0.79 - 1.37)
	Risk ages	42	38.9	44	40.7		
2.	Education level						
	Low	70	64.8	52	48.1	0.013	1.42 (1.06 - 1 , 89)
	High	38	35.2	56	51.9		
3.	Status of work						
	Not working	98	90.7	85	78.7	0.014	1.77 (1.03 - 3.02)
	Working	10	9.3	23	21.3		
4.	Number of children owned	52	48.1	40	37.0	0.099	1.25 (0.96 - 1.63)
	<2 children	56	51.9	68	63.0		
	≥ 2 children						

Note: OR (Odds Ratio); IK (Confidence Interval)

Based on table 1, sociodemographic factors that have been proven to influence women to choose IUD Contraception method were education level ($p = 0.013$) and employment status ($p = 0.014$).

Socio-psychological Factors that Influence women to choose the IUD Contraception method.

Table 2 Factors Socio-psychological

No	Variable	Group				Value	OR
		No IUD		IUD		p	(CI 95%)
			N%		N%		
1.	Perception ideal number of children	58	53.7	73	67.6	0.037	0.75 (0.58 - 0.98)
	≤ 2 children>2 children	50	46, 3	35	32.4		
2.	Husband and wife communication	55	50.9	0	0	<0.001	3.04 (2 , 44 - 3.79)
	Never	53	49.1	10	100		
	Never			8			

Note: OR (Odds Ratio); IK (Confidence Interval)

Based on table 2, sociopsychological factors that are proven to influence women to choose the IUD Contraception method were the perception of the ideal number of children (value p = 0.037) and husband and wife communication (value p <0.001).

Relationship Between Knowledge Levels and the Selection of the IUD Method

Table 3 Relationship of Knowledge Levels and the Selection of the IUD Method

No	Variable	Group				Value p	OR (95% CI)
		No IUD		IUD			
		N	%	N	%		
1.	Benefits of IUD						
	Don't Know	64	59.3	6	5.6	<0.001	3.03 (2.35 - 3.92)
	Know	44	40.7	102	94.4		
2.	Strengths of the IUD						
	Very effective	7	15.9	7	6.9	0.108	-
	Does not affect breast milk	4	9.1	16	15.7		
	Does not affect sexual relations	6	13.6	26	25.5		
	Practical use of	27	61.4	53	52.0		
3.	Side effects of the IUD						
	Don't know	71	65.7	18	16.7	<0.001	2.74 (2.05 to 3.66)
	Know	37	34.3	90	83.3		
4.	type of side effects					0.033	
	abdominal pain				, 9		
	and a lot of old Menstrual Bleeding				8.9		
	Wounds in Rahim		14		3.3		
			11 6				
			6				
			37.8				
			29.7				
			16.2				
			16.2				
5.	Benefits of implants/implants						
	Don't	78	72.2	83	76.9	0.435	0.88 (0.66 - 1.18)
	Know	30	27.8	25	23.1		
6.	Strengths implant / implant						
	Does not interfere with breastfeeding	5	16.7	3	12.0	0.556	-
	Reduces menstrual pain	4	13.3	7	28.0		
	Fast fertility returns	3	10.0	3	12.0		
	Practical use of	18	60.0	12	48.0		
7.	Effects sampi ng implants/implants	85	78.7	88	81.5	0.609	0.92 (0.67 - 1.26)
	Don't	23	21.3	20	18.5		

No.	Item					p	OR (IK)
	Know						
8.	Types of implant side effects						
	Increased body weight	6	26.1	6	30.0		
	Disorders of activity	8	34.8	3	15.0	0.063	-
	Bleeding	7	30.4	3	15.0		
	Pain Location Installation of	2	8.7	8	40.0		
9.	Advantages of Sterile Family Planning	72	66.7	79	73.1	0.299	0.86 (0.65 - 1.13)
	Do not	36	33, 3	29	26.9		
	Know						
10.	Advantages of permanent methods						
	Permanent	5	13.9	11	37.9	0.104	-
	Low pregnancy failure	9	25.0	6	20.7		
	Does not interfere with menstruation	2	5.6	0	0		
	Practical use of	20	55.6	12	41.4		
11.	Side effects of permanent methods						
	Don't know	87	80.6	91	84.3	0.475	0.88 (0 , 64 - 1,22)
	Know	21	19.4	17	15.7		
12.	Side effects of permanent methods						
	Changes in menstrual patterns	11	52.4	12	70.6	0.224	-
	Pain around operations	9	42.9	3	17.6		
	Wounds in the operating area	1	4.8	2	11.8		

Note: OR (Odds Ratio); IK (Confidence Interval)

Based on table 3, it showed that knowledge about the benefits of the IUD, side effects of the IUD had (value $p < 0.001$), and types of side effects of the IUD (value $p = 0.033$). Most respondents did not know the benefits and side effects of implants/implants, and did not know the advantages and side effects of permanent methods.

Results of Knowledge Levels analysis showed that the number items the questionnaire did not match the number of respondents because if the respondent did not know the IUD benefit item then some questions about the topic did not need to be answered, and the respondent moved to the next question. Based on table 1.3 respondents answered that one of the advantages of the IUD method is practical.

Factors Influencing Women to Choose IUD Contraception

Table 4 Factors Influencing the Use of IUD

No	Variable	Coefficient B	SE (B)	Value of P	OR (95% CI)
I.	**Initial Stage (I)**				
	Education Level	0.570	0.385	0.139	1.77 (0.83 - 3.76)
	Occupational status	1,055	0,600	0.079	2.87 (0.87 - 9.30)
	Number of children	0.282	0.423	0.505	1.32 (0.58 - 3.03)
	Perception of the ideal number of children	- 773	0.373	0.038	0.46 (0.22 - 0.96)
II.	**Final Stage (III)**				
	Education Level	0.624	0.375	0.096	1.86 (0.89 to 3.89)
	Employment status	1.098	0.588	0.032	2.99 (1.14 to 7.89)
	Perception ideal number of children	-, 766	0.362	0.034	0, 46 (0.23 - 0.94)

Note: Model Accuracy 72.9%; OR *(Odds Ratio)*; IK (Confidence Interval)

Based on table 1.4 work status variables were the most influential factor of the use of an IUD (OR = 2.99). This means that women with no job status have a 2.99 times greater chance of using an IUD.

DISCUSSION

1. Sociodemographic factors

The level of education and employment status are variables that have a significant influence on women in choosing contraception methods.

   a. Age

The results of *the Univariate* test show that women's age who use IUDs and non-IUDs are not at a risk category. The analysis results of the *bivariate* test obtained p-value = 0.781 (p> 0.05), so there is no significant relationship between the use of IUD contraception with age. The results of the study are following the Savabi and Usefi research in 1999, namely that age does not have a significant relationship to the continuity of the use of IUD contraception ($p >$ 0.05). (Savabi, M & Usefi, A)

In this study, there was no significant relationship to the use of an IUD and ages perhaps because of the culture in Indonesia which believed that "many children, many fortunes" and the area of residence of respondents is not urban so that women of age at risk do not use an IUD because it still holds that culture, inadequate knowledge about IUD contraception,

limited information about the IUD from health workers. This study is in line with Komang's results that the age factor does not have a significant effect on the continued use of IUD contraception. (Komang DA, Ketut TW, 2012).   In contrast to the results of Mahdy and Zeiny's (1999) research found that age is one of the risk factors for discontinuity in the use of contraception in general ($p < 0.001$). (Mahdy, NH & El-Zeiny, 1999)

b. Level of Education

The *Univariate* test indicated that most users of the IUD are highly educated and women who do not use an IUD have a low level of education. The results of the quadratic test analysis obtained value *p= 0.013 (p <0.05).* This means that there is a meaningful relationship between education and the use of an IUD.

Several studies show that there is a significant relationship between the level of education and the use of an IUD. Research by Widiyawati et al states that the higher the education, the easier someone to receive information about IUD contraception, while, the low education level affects the use of IUD contraception. (Widiyawati. S, Mappeaty N, Sudirman N, 2012). The result of Haryani's research found there is a relationship between the level of acceptor education and the continuity of family planning, even though the strength of the relationship is weak. (Haryani, 2001). Likewise, the results of Tri's research found the level of education influences the use of the IUD method. (Setiowati, 2008)

Nurbaiti's research with *the Chi-square* test obtained *p= 0.000*, showing a significant relationship between education and the use of an IUD. (Nurbaiti, 2013). Based on the results of this study analysis *bivariate* shows there is a relationship between the level of education with the use of an IUD, so that the tendency of one's higher education to influence the use of IUD contraception. This is possibly related to Family Planning service information.

Research conducted in Kenya shows that highly educated respondents have a significantly higher chance of using IUD and Implant contraception compared to respondents with low education, while respondents who do not go to school have very little chance of using IUD contraception. (Magadi MA, and Curtis, LS, 2003)

In this study, the analysis *bivariate* obtained *p-value of* 0.013 (p <0.05), which is a significant relationship between the use of IUD contraception with education level, while the *odds ratio* (OR) of the mean of respondents with the level of Higher education has a 0.013 times greater chance of using IUD contraception compared to respondents with low education levels.

c. Employment status

The *Univariate* analysis test shows that almost all respondents who unemployed were chosen the IUD contraception. The *bivariate* analysis results obtained *p*-value = 0.014 (*p* <0.05) so that there is a significant relationship between the use of IUD contraception with the employment status, with the *odds ratio* (OR) of 1.77. It means that respondents who do not use IUDs and unemployed have a chance 1, 77 times more likely to use an IUD compared to respondents who have a job. This result is not in accordance with a study conducted by DKI in 1999, that most EFAs without IUD originated from unemployed women or had their income. (Swastiti, 2008)

The results of the *multivariate* analysis found that the employment status variable is the most influential factor in women in choosing the IUD method. This is different from the initial assumption of researchers and Khader, that education is very influential on the use of an IUD because higher education women can receive information and make more rational decisions to use effective family planning methods. Khader, et al's study found a significant relationship between occupation and discontinuity in the use of an IUD (p> 0.05). (Khader YS, El-Qaderi, S. & Khader, AM, 2013). Unemployed women have a high chance of using an IUD because there is no need to pay money. This is due to the existence of a free IUD contraceptive service program from the PHC, BP3AKB, the PKK KB Health Movement Unity Program, and the ABRI Health Family Planning Program.

d. Number of children

The *Univariate* analysis found the IUD user mostly respondents who had children ≥ , 2 children, it the same with non-IUD women. The results of the bivariable analysis obtained *p* = 0.099 (*p* > 0.05), so there is no significant relationship between the use of an IUD with the number of children. Indonesian believed that "Many children have a lot of luck", so that family planning acceptors do not use effective family planning to reduce the number of family members. This result is different from the study conducted by Khader, et al. There is a significant relationship between the number of live children with discontinuity in the use of IUD contraception (*p*= 0.001). (Khader YS, El-Qaderi, S. & Khader, AM, 2013)

The Pastuti and Siswanto's study found there is a tendency that the more the number of children, the smaller the chances of respondents using the IUD. (Pastuti. Rosyati, Siswanto AW, 2007). The results of Iyegar's research in India explained that women with more than two children chose to set birth spacing rather than limiting births, while women who had one or two children did not want to have more children. (Iyengar, K., and Iyengar, SD 2000). Research in Kenya shows that respondents who want children less than 4 are more likely to use an IUD than respondents who want more than 4 children. (Magadi MA, and Curtis, LS,

2003).   The results of Purba's research (2008) state that there is a significant relationship between the number of children (sig = 0.016) and the use of contraceptives. (Purba, 2008).

2 Sociopsychological factors that influence the use of the IUD

    a. Perception of the ideal number of children

The *univariate* analysis found the IUD and non-IUD users have perception that the ideal number of children is ≤ 2. The *Bivariate* analysis obtained $p = 0.037$ ($p < 0.05$) so that there is a significant relationship between the use of IUDs with the perception of the ideal number of children, while the *odds ratio* (OR) of 0.75 means that respondents non-IUD user have 0.75 times greater chance of using an IUD compared the IUD user. It because the number of non-IUD contraceptive acceptors is mostly at risk of becoming pregnant.   The results of the study are in accordance with previous research, that there is a significant relationship between the perception of the ideal number of children with the use of an IUD. Pastuti, R and Siswanto's research stated that if a person has reached the ideal number of children, it will encourage couples to limit births so they will use the IUD method (Pastuti. Rosyati, Siswanto AW, 2007)

    b. Husband and wife communication

Female would participate in the family planning program if there is support from certain parties. According to Pinem, husband and wife discuss to consider the best contraception for them, cooperate, pay attention to the danger signs of contraceptives, and bear the costs for it (Setyaarum, Noviawati D, 2009).

The results of analysis *univariate* found the IUD respondents had husband-wife communication, while half the respondents of Non- IUD also had conducted husband and wife communication. Based on the research of Widyawati et al and Tri showed that husbands, peers, and parents had influenced the choice of female contraception. Women who discussed and had support from her husband about contraception, it is potential that women's participation in contraception programs increased, while, when a woman feels nervous in communicating about contraception with her husband, so a woman's desire to use contraception decreases. (Widiyawati. S, Mappeaty N, Sudirman N, 2012, Setiowati' 2008). Social support from husbands and families influences respondents' choices in IUD contraception. The better the support provided, the more stable the respondents to choose an IUD contraception. (Wibowo A, Rimawati E, Retno A' 2011)

3. Knowledge factors about the method of contraception that affect the use of the IUD

The study found that most respondents knew the benefits of IUD contraception and side effects. The analysis also found that respondents' knowledge influenced the use of the IUD

method. The knowledge of the benefits of an IUD, side effects of an IUD had value $p < 0.001$) and types of side effects (value $p = 0.033$).

Based on the results of the study of Widyawati et al that the lack of information about IUD contraception makes women choose contraception that is commonly used by other women. (Widiyawati. S, Mappeaty N, Sudirman N, 2012). These results are consistent with Nurbaiti's research that there is a significant relationship between knowledge of the IUD and the use of an IUD. Statistical test results with *Chi-squared* at $p = 0.05$ obtained P-*Value* 0.000, so there is a significant relationship between knowledge and the use of IUDs because the better the knowledge, the level of awareness of respondents using IUDs is higher (Magadi MA, and Curtis, LS, 2003).

CONCLUSIONS

Factors affecting women in choosing IUDs are education level, employment status, perception of the ideal number of children, husband and wife communication, knowledge of the Long-Term Contraception Method. The age factor and the number of children do not influence women's choice in the IUD method. The occupational status factor is the most dominant influence factor in choosing IUD contraception. It is expected that health workers reactivated the program to increase knowledge in the community so it would change the perspective of women in choosing the IUD contraception method.

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