

The Relationship Between Knowledge Level, Education, and Income with the Use of IUD Birth Control in Couples of Childbearing Age (PUS) in Karanganyar Village, Demak Regency

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Abstract

Contraceptive methods are efforts to prevent pregnancy, this effort can be temporary, it can also be permanent. One type of contraceptive that has high effectiveness is the IUD (*Intra Uterine Defices*). IUD contraception is one of the long-standing contraceptive methods of choice for most women due to its safety and effectiveness (97-99%). The use of IUD birth control is still low compared to the number of active birth control participants, both at the national level (Indonesia) and at the regional level (Karanganyar Village). There are several factors that cause the use of birth control IUDs to be low, including: knowledge, education, and income. The type of research used is quantitative research with a cross sectional design. The research was conducted in Karanganyar Village, Demak Regency with a population of 649 PUS and a sample of 87 PUS. The sampling technique used is cluster random sampling using questionnaire instruments and data analysis used bivariate analysis, namely the Chi Square Test. The results showed that PUS in Karanganyar Village, Demak Regency mostly had less knowledge (51.7%), educated \geq high school (62.1%), low-income (79.3%), and used injectable contraceptives as many as 60 PUS (69.0%). There was a relationship between the level of knowledge and the use of IUD birth control in couples of childbearing age (PUS) in Karanganyar Village, Demak Regency (p-value $0.000 < 0.05$). There was no relationship between education level and the use of birth control IUDs in couples of childbearing age (PUS) in Karanganyar Village, Demak Regency (p-value $0.273 > 0.05$). There was a relationship between income level and the use of birth control IUD in couples of childbearing age (PUS) in Karanganyar Village, Demak Regency (p-value $0.026 < 0.05$).

Key words: Knowledge, Education, Income, PUS, KB IUD

INTRODUCTION

In 1957, the government established the National Family Planning program, while in 1970 President Soeharto established the National Family Planning Coordinating Board (BKKBN) (Veronica *et al.*, 2019). Entering the Industrial Revolution 4.0, the number of Couples of Childbearing Age (PUS) continues to grow. Couples of Childbearing Age (PUS) are married couples who have sex in a legal marriage bond, where PUS ranges from 15-49 years old. PUS is considered easy to give birth to children and often experiences early miscarriages, so to overcome this problem, the government has created a Family Planning (KB) program to protect the health of mothers and children in the womb (Sulistiawati, 2022). One of the important factors in the success of the family planning program is the selection of contraceptive methods. Contraceptive methods are efforts to prevent pregnancy, this effort can be temporary, it can also be permanent (Susanty, 2019). One type of contraceptive that has high effectiveness is the IUD (*Intra Uterus Defices*). IUD contraception is one of the long-standing contraceptive methods of choice for most women due to its safety and effectiveness (97-99%) (Hasibuan, 2020).

BKKBN data states that the number of couples of childbearing age in Indonesia in 2021 has reached 39,655,811 people, active birth control participants as many as 63.31% and those who use birth control IUD 2.6%. The Central Statistics Agency of Central Java Province in 2021 shows that the data on the number of PUS (Couples of Childbearing Age) is 6,408,024 people, 70.35% active family planning participants and 9.13% who use IUD birth control. The Central Statistics Agency of Demak Regency in 2021 showed that data on the number of PUS was 220,528 people, active in the number of family planning participants, which was 72.31% and those who used birth control IUDs 3.75%. According to BKKBN data for Karanganyar District, Karanganyar Village itself PUS in 2021 was 887 people, 72.26% active participants in family planning and 2.37% who used IUD birth control.

Judging from this data, the use of IUD birth control is still low compared to the number of active family planning participants, both at the national level (Indonesia) and at the regional level (Karanganyar Village). There are several factors that cause the use of birth control IUDs to be low, including: knowledge, education, and income. From this background, the researcher was interested in conducting a study entitled "The Relationship Between Knowledge Level, Education, and Income with the Use of IUD Family Planning in Couples of Childbearing Age in Karanganyar Village, Demak Regency".

METHODS

The type of research used is quantitative research with a cross sectional design. The research was conducted in Karanganyar Village, Demak Regency. The population used was all participants of Couples of Childbearing Age (PUS) who used family planning in February 2023 in Karanganyar Village, Demak Regency as many as 649 PUS. Samples were taken using the Slovin formula:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{649}{1 + 649 (0,1)^2}$$

$$n = 86,6$$

$$n = 87 \text{ PUS}$$

The sampling technique used is cluster random sampling. The instruments in this study were questionnaires and data analysis using bivariate analysis, namely the Chi Square Test.

RESULTS AND DISCUSSION

The results of the univariate analysis showed that out of 87 PUS, as many as 42 PUS (48.3%) had good knowledge and as many as 45 PUS (51.7%) had poor knowledge. When viewed from education, as many as 33 PUS (37.9%) are educated < high school and as many as 54 PUS (62.1%) are educated ≥ high school. When viewed from income, as many as 18 PUS (20.7%) have sufficient income and as many as 69 PUS (79.3%) have low income. Meanwhile, when viewed from the birth control method, as many as 20 PUS (23.0%) used IUD birth control, as many as 3 PUS (3.4%) used pill birth control, as many as 3 PUS (3.4%) used MOW birth control, as many as 60 PUS (69.0%) used injectable birth control, and as many as 1 PUS (1.1%) used implanted birth control.

Table 1. Univariate Analysis Results

Category	Frequency	Percent (%)
Knowledge		
Good	42	48,3
Less	45	51,7
Total	87	100
Education		
< SMA	33	37,9
≥ SMA	54	62,1
Total	87	100
Income		
Enough	18	20,7
Low	69	79,3
Total	87	100
Family planning method		
IUD	20	23,0
Non IUD		
GDP	3	3,4
MOW	3	3,4
Injection	60	69,0
Implan	1	1,1
Total	87	100

Based on the results of the bivariate analysis of knowledge with the use of birth control, PUS that used birth control IUD with good knowledge was 20 PUS (47.6%), while PUS that used IUD birth control with less knowledge was 0 PUS (0%). PUS that used Non IUD birth control with good knowledge was 22 PUS (52.4%), while PUS that used Non-IUD birth control with poor knowledge was 45 PUS (100%). The results of the Chi Square Test analysis obtained a p-value of 0.000 compared to a value of 0.05, then the p-value < 0.05. This means that there is a relationship between the level of knowledge and the use of IUD birth control in couples of childbearing age (PUS) in Karanganyar Village, Demak Regency. Based on education with the use of birth control, PUS who used birth control IUD with high school < education as many as 5 PUS (15.2%), while PUS who used birth control IUD with \geq high school education as many as 15 PUS (27.8%). PUS that use Non-IUD birth control with high school < education as many as 28 PUS (84.8%), while PUS that uses Non-IUD birth control with high school \geq education as many as 39 PUS (72.2%). The results of the Chi Square Test analysis obtained a p-value of 0.273 compared to a value of 0.05, then the p-value > 0.05. This means that there is no relationship between the level of education and the use of birth control IUDs in couples of childbearing age (PUS) in Karanganyar Village, Demak Regency. Based on income with the use of birth control, PUS that used birth control IUD with sufficient income was 8 PUS (44.4%), while PUS that used birth control IUD with low income was 12 PUS (17.4%). PUS that use Non-IUD birth control with sufficient income are 10 PUS (55.6%), while PUS that use Non-IUD birth control with low income are 57 PUS (82.6%). The results of the analysis of the Fisher's Exact Test obtained a p-value of 0.026 compared to a value of 0.05, then the p-value < 0.05. This means that there is a relationship between income level and the use of birth control IUDs in couples of childbearing age (PUS) in Karanganyar Village, Demak Regency.

Table 2. Bivariate Analysis Results

Variabel	Contraceptive Methods				Total		p-Value
	IUD		Non IUD				
	n	%	n	%	N	%	
Knowledge							0,000
Good	20	47,6	22	52,4	42	100	
Less	0	0	45	100	45	100	
Total	20	23,0	67	77,0	87	100	
Education							0,273
< SMA	5	15,2	28	84,8	33	100	
≥ SMA	15	27,8	39	72,2	54	100	
Total	20	23,0	67	77,0	87	100	
Income							0,026
Enough	8	44,4	10	55,6	18	100	
Low	12	17,4	57	82,6	69	100	
Total	20	23,0	67	77,0	87	100	

The results of the univariate analysis showed that out of 87 PUS, as many as 42 PUS (48.3%) had good knowledge and as many as 45 PUS (51.7%) had poor knowledge. According to the results of this study, the knowledge possessed by the mother greatly influences in choosing the type of contraception, the knowledge obtained based on the side effects and the mother's compatibility in the contraception, making it easier for the mother to choose the contraception used. This research is in line with that conducted by Trianingsih, *et al.* (2021) "The Relationship between the Role of Health Workers, Knowledge and Support of Husbands and IUD Family Planning Acceptors at the UPTD Pengandonan Health Center, Ogan Komering Ulu Regency", that of the 38 respondents with good knowledge, 9 respondents (23.7%), while 29 respondents (76.3%) had poor knowledge. Well-informed respondents did not want to use birth control IUDs because of the relatively expensive installation cost, especially for respondents who did not have health insurance and the experience of friends who said that there was discomfort and pain in the male vital organs during sexual intercourse.

When viewed from education, as many as 33 PUS (37.9%) are educated < high school and as many as 54 PUS (62.1%) are educated \geq high school. According to the researcher, knowledge is very closely related to higher education, so the person will also have a wider range of knowledge. However, it should be emphasized that a person who is poorly educated does not necessarily mean absolutely low-knowledge. The results of this study are in line with Simbolon (2017), that mothers who do not use IUDs

are more than mothers who have higher education, which is 36 people (52.9%) compared to mothers who have low education, which is 14 people (43.8%). The difference in proportion between the two groups was not so large that it did not have an impact on the significance of the variable relationship.

When viewed from income, as many as 18 PUS (20.7%) have sufficient income and as many as 69 PUS (79.3%) have low income. Related to this study, family income as a measure of economic level will affect respondents who use IUD birth control contraceptives because to get the desired IUD contraceptive services, family planning acceptors must prepare funds as needed because the device and its installation are more expensive, especially IUD birth control. In addition, most people do not know about the free family planning service program organized by the state every month. This research is in line with what was done by Ratih (2017), that the level of income will affect the choice of contraception. This is because to get the necessary contraceptive services, the acceptor must provide the necessary funds. A person will definitely choose a contraceptive that suits their ability to get the contraception.

When viewed from the birth control method, as many as 20 PUS (23.0%) used IUD birth control, as many as 3 PUS (3.4%) used pill birth control, as many as 3 PUS (3.4%) used MOW birth control, as many as 60 PUS (69.0%) used injectable birth control, and as many as 1 PUS (1.1%) used implanted birth control. Based on the results of this study, most of the respondents who use injectable contraceptives are because according to the respondents it is cheap, practical and comfortable. In fact, if you count injectable contraceptives, the cost incurred must be every month or once every three months. This study is in line with what was conducted by Kusumaningrum (2019), that PUS who did not use IUD contraceptives were as many as 256 respondents (81%). The lack of specialization of birth control acceptors towards IUD contraceptives is due to various different reasons such as fear of side effects, fear of the installation process, being prohibited by husbands because they are afraid that the thread will interfere during intercourse.

Based on the results of the Chi Square Test analysis, a p -value of 0.000 ($p < 0.05$) was obtained. This means that there is a relationship between the level of knowledge and the use of IUD birth control in couples of childbearing age (PUS) in Karanganyar Village, Demak Regency. Respondents who chose not to use IUDs were influenced by factors *informed choice* where some respondents think that the process of inserting and using IUDs also makes respondents feel afraid to choose and use IUD contraception. In addition, respondents think that IUDs will affect sex often haunting and make couples of childbearing age not use IUDs. So in this case, the researcher concluded that the lower the respondent's knowledge, the lower the respondent's participation as an IUD birth control acceptor. This research is in line with research conducted by Perwira, *et al.* (2022), that respondents who had less knowledge because of their beliefs or beliefs used IUD contraceptives and also respondents mostly tried because there were friends or relatives who used the contraceptives. In addition, IUD contraceptives have superior advantages such as few side effects, IUDs are a long-term contraceptive method, and most respondents who use IUD contraceptives menstrual are smooth and regular.

Based on the results of the Chi Square Test analysis, a p -value of 0.273 ($p > 0.05$) was obtained. This means that there is no relationship between the level of education and the use of birth control IUDs in couples of childbearing age (PUS) in Karanganyar Village, Demak Regency. The level of education does not affect the selection of IUD contraceptives, this is because a person's decision in choosing a contraceptive device is not solely influenced by a high level of education. This study is in line with that conducted by Hutagalung (2018) on "Factors Related to the Selection of Contraceptives by PUS at the Rawang Pasar IV Health Center, Asahan Regency", that the results of the statistical test obtained a p -value of 0.102 ($p > 0.05$), so there is no relationship between education and the choice of contraceptive method. A high level of education is not a benchmark for whether or not a person's level of knowledge is high. This is because respondents who are low or highly educated already know the benefits of a contraceptive device.

Based on the results of the analysis of the Fisher's Exact Test, a p -value of 0.026 ($p < 0.05$) was obtained. This means that there is a relationship between income level and the use of birth control IUDs in couples of childbearing age (PUS) in Karanganyar Village, Demak Regency. Low-income respondents did not use birth control IUD because they did not know the long-term benefits of birth control IUD and were not aware of the free cost from the government in its installation and the lack of support from their husbands to suggest using birth control IUD. This research is in line with research conducted by Tampubolon, *et al.* (2019), from the results of the statistical test the value of p -value 0.021 ($p < 0.05$), so there is a significant relationship between income and IUD birth control participation.

This is because in order to get the necessary contraceptive services, the acceptor must provide the necessary funds. Although calculated from an economic point of view, IUD contraceptives are cheaper than injectable birth control or pills, but sometimes people see it as a cost that must be incurred for one pair. If the benchmark is the cost of each pair then the IUD appears to be much more expensive. But when viewed from the period or period of use, the cost that must be incurred for the installation of an IUD will be cheaper than injectable birth control or pills.

CONCLUSION

1. PUS knowledge in Karanganyar Village, Demak Regency, most of the people who have knowledge are lacking as many as 45 PUS (51.7%).
2. PUS education in Karanganyar Village, Demak Regency, is mostly educated \geq high school as many as 54 PUS (62.1%).
3. PUS income in Karanganyar Village, Demak Regency, is mostly low-income as many as 69 PUS (79.3%).
4. The use of contraceptives in PUS in Karanganyar Village, Demak Regency, mostly uses injectable contraceptives as many as 60 PUS (69.0%).
5. The results of the Chi Square Test analysis obtained a p-value of 0.000 ($p < 0.05$), meaning that there is a relationship between the level of knowledge and the use of IUD birth control in couples of childbearing age (PUS) in Karanganyar Village, Demak Regency.
6. The results of the Chi Square Test analysis obtained a p-value of 0.273 ($p > 0.05$), meaning that there was no relationship between education level and the use of IUD birth control in couples of childbearing age (PUS) in Karanganyar Village, Demak Regency.
7. The results of the analysis of the Fisher's Exact Test obtained a p-value of 0.026 ($p < 0.05$), meaning that there is a relationship between income level and the use of birth control IUDs in couples of childbearing age (PUS) in Karanganyar Village, Demak Regency.

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