

The effect of knowledge level on IUD contraceptive use in women of childbearing age

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ABSTRACT

Introduction: The use of intrauterine device (IUD) contraception is one effective method for birth control and family planning. Despite this, IUD adoption rates among women of childbearing age are still relatively low. One factor that can affect IUD use is a woman's level of knowledge about this method of contraception.

Objective: analyze the effect of knowledge level on IUD contraceptive use in women of childbearing age.

Methods: This study used a quantitative research design with a cross sectional approach. The sampling technique uses Total Sampling and the number of respondents is 134 KB acceptors. Data collection using Knowledge questionnaire.

Result: The results of the Chi Square statistical test showed a p value $(0.001) < \alpha = (0.05)$ with a confidence level of 95%, indicating that H_0 was rejected and H_a was accepted or there was a knowledge relationship with IUD contraceptive use.

Conclusion: The level of knowledge about IUDs has a significant effect on a woman's decision to use this method of contraception. Efforts to increase education and information about IUDs are expected to increase IUD use rates and help family planning programs.

Keywords: IUD contraception; level of knowledge, women of childbearing age.



INTRODUCTION

The high quantity of population causes problems for the government in improving the quality of life of the community. Therefore, to suppress the rate of population growth, the government designed a program, namely the Family Planning Program (KB) (De Guimarães *et al.*, [2020](#)). The purpose of the family planning program is to minimize the rate of population growth and improve human quality in the future. One of the activities realized in the family planning program is the use of contraceptives (Senderowicz, [2020](#)). Contraception is a tool used to avoid pregnancy due to the meeting of mature eggs with sperm cells (Skinner *et al.*, [2021](#)). Contraceptive methods are divided into 2 mode categories, namely Long-Term Contraceptive Method (MKJP) and Non-Long-Term Contraceptive Method (Non MKJP). One example of MKJP is Intra Uterine Devices (IUD) or commonly called Aslat Contraception in the Womb (IUD) (Ayu, Ismarwati and Mamnu'ah, [2022](#)). IUD or Spiral is one of the contraceptives recommended in the Family Planning program in Indonesia, is one type of long-term contraceptive that is ideal to prevent pregnancy, made of flexible plastic, has copper coils, or also contains hormones and is inserted into the uterus through the vagina, has several types and duration of use. Basically, there are two types of IUD contraceptives, namely hormonal and non-hormonal IUDs (Natalia, 2020). IUDs are safe, efficient, and reversible to use (Dereje, Engida and Holland, [2020](#)). However, behind these benefits, the use of IUDs also has several side effects including spotting bleeding, pain, menometrorragia, vaginal discharge or flour albus, infection, dysmenorrhoea, impaired sexual comfort (Aldabbagh and Al-Qazaz, [2020](#)).

Birth control and family planning are important aspects of reproductive health that affect the well-being of individuals and communities. One practical and popular method of contraception is the Intrauterine Device (IUD) (Gomez *et al.*, [2020](#)). IUDs offer long-term benefits with low failure rates, making them an ideal choice for many women of childbearing age. However, despite their proven effectiveness and safety, IUD adoption in many regions is still low. Low IUD use is often due to a lack of knowledge and understanding of these methods (Alharthi, Alotaibi and Kofi, [2023](#)). Factors such as myths and misconceptions about side effects, fitting procedures, as well as long-term benefits can discourage women from choosing IUDs as their contraceptive method. In addition, socio-cultural factors, access to accurate information, and the quality of reproductive health education also play a role in determining a woman's level of knowledge about IUDs (Phethi, [2021](#)). Increasing knowledge about IUDs through effective education is expected to overcome these barriers and encourage more women to use this effective contraceptive method.

Health education that includes comprehensive information about the benefits, risks, and procedures of IUD use can help women make more informed and informed decisions about their contraception. Many factors that influence the choice of IUD contraceptives include age, education, and the number of children (Armuan *et al.*, [2024](#)). Women who are less than 20 years old are recommended to delay pregnancy by using pills. Age 20-35 years is the ideal age for pregnancy and childbirth, at this stage it is recommended that couples of childbearing age who have one child to use effective methods both hormonal and non-hormonal, and the age over 35 years has a higher risk of pregnancy and childbirth compared to the young reproductive period so it is recommended to use effective contraceptives such as IUDs. Education is a factor influencing the choice of contraception (Jali, [2023](#)). Quality of family planning officers had a positive and significant effect on the satisfaction of family planning acceptors, the variable of service quality of family planning officers had a positive and significant effect on the trust of family planning acceptors, the variable of satisfaction with family planning acceptors had a positive and significant effect on the trust of family planning acceptors, and the variable of service quality of family planning officers (Misransyah *et al.*, [2023](#)).

Increasing knowledge of women of childbearing age about IUD contraception and increased IUD use have several positive impacts and significant implications for health: More

effective birth control, IUDs are one of the most effective contraceptive methods with low failure rates. Increased IUD use can help reduce the number of unplanned pregnancies, which contributes to better family planning. Decreased abortion rates, with the use of more effective contraceptives, the rate of unwanted pregnancies and unsafe abortions can be reduced. This has a direct impact on reducing the health risks associated with abortion, including medical complications and maternal death. Support for family planning programs, education and knowledge enhancement about IUDs support national and international family planning programs, which aim to improve reproductive health and reduce unplanned births. This study aimed to analyze the effect of the level of knowledge on IUD contraceptive use in women of childbearing age.

METHOD

The research method uses a type of quantitative research with a cross sectional approach. Cross sectional approach. The population in this study was all women of childbearing age birth control acceptors. The total population of female birth control acceptors is 134 people until the end of June 2023, the sample in this study was 134 women of childbearing age of birth control acceptors at the Puskesmas in Hulu Sungai Selatan. The sampling technique in this study was using total sampling. Data analysis using the Spearman Rank test. Data analysis was performed on each research variable using univariate bivariate to determine the effect between variables with the help of SPSS 25.0 software.

RESULTS

Table 1. Demographics

Characteristic	n	%
Knowledge		
Good	43	32
Enough	40	30
Less	51	38
Contraceptive Use		
Tablet	29	22
Injection	35	26
IUD	49	37
Implant	9	7
Condom	12	9

Table.2 Results of correlation analysis knowledge with contraceptive use

Knowledge	Contraceptive Use										Total	P value	
	Tablet		Injection		IUD		Implant		Condom				
	f	%	f	%	f	%	f	%	f	%			
Good	5	11.6	8	18.6	24	55.8	3	7	3	7	43	100	0.001
Enough	4	10	7	17.5	22	55	4	10	3	7.5	40	100	
Less	20	39.2	20	29.2	3	5.9	2	3.9	6	11.8	51	100	

Based on the table of 43 well-informed people, there were 5 people (11.6%) who used pills, 8 people (18.6%) who used injections, 24 people (55.8%) who used IUDs, 3 people (7.0%) who used implants and 3 people also (7.0%) who used condoms, while of 40 people who were knowledgeable there were 4 people (10.0%) who used pills, 7 people (17.5%) who used injections, 22 people (55.0%) who used IUDs, 4 people (10.0%) who used implants and 3 people (7.5%) who used condoms, then of the 51 people with less knowledge there were 20 people (39.2%) who used pills, 20 people (39.2%) who used injections, 3 people (5.9%) who used IUDs, 2 people (3.9%) who used implants and 6 people (11.8%) who used condoms. The results of the chi-square statistical analysis test p value = 0.001 < α = 0.05 with a confidence level of 95% which means that H_0 is rejected and H_a is accepted, or there is an influence of knowledge with the use of IUD contraceptives.

DISCUSSION

The researchers' findings show influence of knowledge with the use of IUD contraceptives. That level of expertise has a significant impact on IUD contraceptive use among women of childbearing age. Women with better understanding of IUDs, including how they work, benefits, risks, and procedures for insertion, are more likely to use IUDs. This shows that accurate and comprehensive information plays a crucial role in decision-making regarding contraceptive methods (Corneliess *et al.*, [2023](#)). Reliable sources of information, such as health workers, community education programs, and credible media, are essential in increasing women's knowledge of IUDs. Health workers have a significant role to play in educating and answering questions and concerns women may have about IUDs (Biggs *et al.*, [2020](#)). Myths and misconceptions about IUDs are still widely circulated in society. Some women may fear side effects that do not actually occur or have incorrect information about the procedure. Proper education can help dispel this myth and provide a clear and accurate picture of IUDs (Fulcher *et al.*, [2021](#)).

Socio-cultural factors, including social norms, religious beliefs, and family support, also influence the level of IUD knowledge and use. Effective education programs must consider the local cultural and social context to achieve better outcomes (D'Souza *et al.*, [2022](#)). Higher IUD use has the potential to reduce the number of unwanted pregnancies, which in turn can decrease abortion rates and improve maternal and child health (Marimirofa *et al.*, [2023](#)). In addition, families who are better able to plan their pregnancies tend to have better economic well-being and can provide better care for their children. Knowledge building strategies with reproductive health programs enhance IUD education efforts through a variety of channels, including health clinics, schools, mass media, and community programs. Training for health workers to provide clear and supportive information is also very important (Ghule *et al.*, [2024](#)). Increased knowledge about IUDs not only impacts increased use of these contraceptive methods but also has broader positive implications for public health and social well-being. Continuous, evidence-based education is critical to achieving this goal (Hatijar and Saleh, [2020](#)).

Women with a higher knowledge of IUDs tend to be more accepting and use this method. Knowledge includes an understanding of how IUDs work, their benefits, potential side effects, and the procedure for their insertion (Borges *et al.*, [2020](#)). Accurate and comprehensive information can reduce fears and misconceptions that often get in the way of IUD use. Effective health education programs can increase knowledge and influence women's attitudes and behaviors toward IUDs. Counseling and counseling that focuses on the long-term benefits, safety, and effectiveness of IUDs can help address myths and stigma that still exist in society (Mansur, Hartaningrum and Legiati, [2021](#)). A high level of knowledge can increase IUD use, there are still other barriers such as access to health services, installation costs, and personal discomfort or fear of medical procedures. Efforts to improve accessibility and provide user-friendly services are essential. The increasing use of IUDs because of better knowledge has positive implications for public health. These include a reduction in the rate of unplanned pregnancies, a reduction in the risk of unsafe abortion, and improvements in maternal and child health. Thus, increased education about IUDs can support broader family planning and reproductive health programs (Yusrotul Khasanah *et al.*, [2022](#)).

To increase IUD use, future strategies should include increased structured education programs, the provision of accessible information, and support from health workers (Ariyo *et al.*, [2021](#)). In addition, there needs to be an inclusive approach that involves the community and other stakeholders to ensure that the information conveyed is relevant and acceptable to all community groups (Grethe Sønsthagen, [2020](#)). Higher levels of knowledge about IUDs significantly influence a woman's decision to use this method of contraception important implications for reproductive health policy. Governments and health organizations should strengthen education and counseling programs on IUD contraception. Training for health workers on how to convey

information about IUDs effectively also needs to be improved. Increased education and access to accurate information are vital to increasing IUD adoption and supporting better reproductive health the importance of proper education and access to information in increasing IUD contraceptive use (Suprpto *et al.*, 2024). By increasing a childbearing age woman's knowledge of IUDs, wellness programs can support better family planning and improve overall reproductive health (Soin *et al.*, 2022).

CONCLUSION

It can be concluded that the level of knowledge of women of childbearing age about IUD contraception has a significant influence on the use of this contraceptive method. Women who have higher knowledge about the benefits, risks, and procedures of IUD use tend to prefer and use IUDs compared to those who have less knowledge. Therefore, increasing education and information about IUDs can be an effective strategy to increase adoption of these contraceptive methods and support family planning programs.

Conflicts of Interest:

The authors declare no conflict of interest.

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