



Analysis of Factors Related to the Use of Iud Contraceptives in the Working Area

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Abstract

The growth of the world's population is increasing day by day, the increase in the number of people also has an impact on the maternal mortality rate (AKI). The factor that causes the increase in population is the lack of people in the use of contraception, especially in the use of long-term contraception, one of which is IUD. The purpose of this study is to find out "Factors Related to the Use of IUD Contraceptives in the Working Area of the Andalas Padang Health Center This type of research is analytical with a Cross Sectional design, which will be carried out from June 2024 to January 2025. A sample of 68 PUS people using IUD contraceptives was taken using propotional random sampling. Data collection was conducted using questionnaires and analyzed using Chi Square and Logistic Regression tests. The results of the study found that the level of knowledge was high (69.1%), positive attitude (79.4%), support for husbands who did not support (60.3%), and support for health workers (75.0%). Based on multivariate results, it was found that the most dominant factor related to the use of IUD contraceptives was the husband's support with the highest OR value of 4,398. The conclusion of this study found that there was a relationship between the level of knowledge, attitude, husband support and health worker support. The most dominant factor is the husband's support. It is hoped that there will be cross-sectoral cooperation and education in the role of husbands to increase the use of IUD contraceptives in PUS.

Introduction

The world's population growth is increasing day by day, the number of people in the world on November 15, 2022 reached 8 Billion (Dawson & Zhang, 2024). In 2021 the population was 7.84 billion, while in 2022 this population growth rate increased by 2.04%. Indonesia itself is ranked 4th in the world with a total population of 275.77 million people in 2022 (Zuhri & Arif, 2024; Mulyana et al., 2023; Rahmanta et al., 2023). This number increased by 1.13% compared to last year which was 272.68 million people (Lizein et al., 2024).

The rapid increase in the number of people is feared to have an impact on the quality of human life itself, such as maternal and child health problems (Kempe et al., 2015; Wachs et al., 2009; Klabbers et al., 2016). The maternal mortality rate (AKI) in Indonesia remains relatively high when compared to other opic. Based on information from the World Health Organization (WHO), Indonesia is ranked second in the Southeast Asian region with a rate of 305 deaths per 100,000 births (Hadjjo, 2024; Ryan et al., 2021). One of the factors causing death here is bleeding during childbirth, which can be caused by pregnancy with too close intervals or also due to unwanted pregnancy (Maswime & Buchmann, 2016; Huq & Kadir, 2011).

Actions to reduce AKI should be encouraged as an effort to achieve Universal Health Coverage in reproductive health services, which also includes family planning services for the achievement of quality families. One of the main strategies in lowering AKI is to ensure that every pregnancy is a planned pregnancy (Piccoli et al., 2018; Vinturache et al., 2019; Wiles et al., 2019). Almost 98% of women after giving birth do not want to get pregnant in the next two years. This shows that every postpartum woman needs protection against pregnancy for at least two years with contraceptive methods.

The Government of the Republic of Indonesia has stipulated Law of the Republic of Indonesia No. 52 of 2009 concerning Family Planning. This law is an effort to regulate aspects of pregnancy, birth, distance between children, and age at birth, with the aim of promoting quality family achievements. The Family Planning (KB) program is also supported by the use of contraceptives that have a high level of effectiveness (Aghajanian & Merhyar, 1999; Harini et al., 2019; Sumual et al., 2024). Contraceptives provided by the government include Long-Term Contraceptive Methods (MKJP) such as Intrauterine Contraceptive Devices (IUDs), Implants, and Male Surgical Methods (MOPs). (Law of the Republic of Indonesia No. 52 of 2009).

Contraception is a method that aims to avoid the encounter between the ovum and the spermatozoid so that fertilization and pregnancy do not take place (AS et al., 2019; Cleland et al., 2021). Meanwhile, family planning is an effort by a married couple to regulate the quantity and time difference between children they want to have. (Mosha et al., 2013). Research conducted by (Bolarinwa et al., 2023) shows that countries in Asia have the highest use of contraception, at 66.9% and EECA, Eastern Europe, and Central Asia at 49.0%. MKJP IUD/AKDR 68.0%, Implants 54.4%, MOW 60.1%, MOP 46.9%.

According to a study conducted by (Alwabari et al., 2023) entitled "Knowledge, Attitude, and Practice of Family Planning Among Saudi Primary Health Care Attendees in Al-Ahsa, Kingdom of Saudi Arabia" with a total of 672 respondents aged 20-30 women and 21.4% men. 23.8%, for knowledge, 73.8% of respondents said they knew contraception from internet media, neighbors, doctors and relatives. For the current attitude, 65.2% choose to use MKJP contraceptives.

The prevalence of contraceptive use for couples of childbearing age at the age of 20-49 years in Indonesia is set at 57.4%, which means that every province in Indonesia must meet the prevalence that has been set, with the number of MKJP Implant users being 10.0%, IUD/AKDR 8.0%, MOW 4.2%, MOP 0.2% and MAL 0.1%. West Sumatra Province with a prevalence of 51.3% is below the standards set by the Indonesian Ministry of Health.

IUD contraception is a birth control method that is installed in a woman's uterus. This method offers a very high level of effectiveness, reaching 99.4%, and can be used for a fairly long duration, namely 3-5 years for the hormonal type and 5-10 years for the copper type. By using IUD contraception, it is hoped that it can help reduce maternal mortality and slow down population growth in Indonesia. (Utomo & Romadlona, 2021). The age of use of IUD contraceptives is most widely used in women over the age of 24 years to 49 years with more than 2 children of use, this is because many women of childbearing age in France are busy and reluctant to choose short-term contraception.

By using IUDs for a period of 3-6 years, women in France are more comfortable in using IUDs. This study also explains that women under the age of 25 have a range of cancer risks caused by IUD contraception. The Central Statistics Agency of West Sumatra Province in 2022 shows the number of Couples of Childbearing Age (PUS) as many as 771,735 in 2021, PUS is an abbreviation for couples of childbearing age where married couples whose wives are 15-49 years old. Padang City is ranked first for the highest number of PUS in West Sumatra Province, which is 102,667 people with 18,850 MKJP users.

Data from the Padang City health office in 2021 shows that the number of new family planning participants was 26,851 people (13.65%) and active family planning participants were 107,542 people (54.66%) with a total of 196,759 people, for Active Family Planning using MKJP as many as 18,502 people (17.20%). The number of new family planning participants who use MJKP is 1,505 people (20.99%). For the highest number of PUS in the city of Padang is the Andalas Health Center with a total of 17,131 PUS with the use of 42 people (6.3%) of MKJP IUD/AKDR 42 people.

Implants 44 people (6.6%), MOW 11 people (1.6%). For the achievement of the target in Padang City, which is 23.53%, it is still far from the target of achieving the use of family planning in Indonesia of 57.4% (Profile of the Padang City Health Office, 2023). The results of the data survey conducted by the author at the Andalas Health Center are 7 villages, namely Sawahan Village, Jati Baru Village, Jati Village, East Sawahan Village, Simpang Haru Village, Andalas Village, and Ganting Parak Gadang Village. Of the 7 complaints from January to July 2023, there were 11,125 PUS targets and the number of active family planning participants was 2,920 PUS.

In addition, the author also conducted an interview with health workers regarding the number of PUSs in the Andalas Health Center, the health worker confirmed that the number of PUSs in his area is the highest in Padang City, because the coverage of the area is too wide and also the density of people in each village. For AKI itself in the Puskesmas there is no AKI, and for the use of IUD contraception, there are a lot of PUS who do not want to go to the Puskesmas or PUS install IUD contraceptives in other clinics. For the age of IUD contraception use at your health center, the average PUS is for those who have had 2 children or even more than 2 people, with an age range of 25 years to 50 years. This is what causes the achievement of IUD contraception at the Andalas Health Center to be not achieved, only around 65% are carried out.

The results of the initial opic conducted by the writer of the Andalas Health Center work area on September 29, 2023 were obtained by 10 respondents. Knowledge in the use of IUD contraception: 50% of respondents have moderate knowledge. From the results of the interviews, respondents also mentioned that they did not know much about long-term contraceptive methods. 60% of the attitude in the use of IUD contraception has an opic h attitude in the use of IUD contraception due to fear and discomfort when the IUD/Implant is inserted, the position of the IUD that changes out of place, long menstrual patterns, abdominal cramps and the effectiveness of IUD contraceptives that do not work properly.

Husband's support in the use of IUD contraception 60% of respondents do not get support from their husbands in using IUD contraception, because the decision to use contraception must involve the husband and wife and this is related to comfort in relationships. Respondents mentioned the discomfort in having sex when using IUD contraceptives and the husband also recommended using other contraceptives, as well as the husband's busyness at work, so the husband also never delivered to the health service in using contraception.

The results of the opic role of health workers in the use of IUD contraceptives 50% of respondents stated that health workers always provide information about contraception, health workers are friendly in providing services and provide feedback to respondents that there is nothing they do not understand about contraceptives. Based on the above problems, the author is interested in conducting a research entitled "Analysis of Factors Related to the Use of IUD Contraceptives in the Work Area of the Andalas Padang Health Center".

Methods

The study was developed as an analytical, observational research, based on a cross-sectional research design, which would analyse predisposing factors of intrauterine device (IUD)

contraceptive use among couples of child bearing age, within the scope of operation of Andalas Health Centre, Padang City. It was considered that the cross-sectional methodology was appropriate since it would allow recording naturally existing contraceptive use patterns and the factors related to them in the target population at one point in time without any control over the variables or implementing any intervention.

This research was performed in the period between June 2024 and January 2025 in seven villages where Andalas Health Centre existed, i.e., Sawahan, Jati Baru, Jati East, Sawahan Simpang Haru, Andalas, and Ganting Parak Gadang. The target population included couples in the childbearing age that were registered in the family planning service system of the health centre and met the eligibility criteria to undergo contraceptive use assessment. Through the health centre health centre records and field verification, 68 respondents met the inclusion criteria and were further recruited through the proportional random sampling. All the eligible respondents agreed to participate in the research, and a final sample that was fully representative of the target population in the study area was obtained.

The level of IUD contraceptive use, defined as low and high use, was the primary outcome variable, and this measure was defined by the utilisation patterns and continuity of IUD contraceptive use by respondents. The independent variables were knowledge level about IUD contraception, attitude towards IUD use, husband support, and health worker support; they were inspired on the theoretical basis and empirical evidence that they are related to contraceptive decisions of the couples of child bearing age.

Data gathering was using a structured questionnaire, which was developed after a thorough examination of relevant literature and previous empirical research done on family planning and long-term use of contraceptives. The instrument was able to measure not only the objective knowledge but subjective evaluations and social support aspects that are important to the use of IUD. The knowledge was evaluated through objective items in terms of how well the respondents comprehended the role, advantages, efficacy and potential side effects of IUD birth control. The Likert-scale statements of the perception and experience of respondents and social interactions in relation to the choice of contraceptives were used to measure the attitudinal and support variables. Each variable measured with composite scores was then categorised as low or high based on pre-established cut-off values based on score distribution in order to generate meaningful differentiation amongst the respondents.

The instrument was subjected to a validity and reliability test before the actual process of data collection in order to generate scientific rigor. The assessment of validity was through item-total correlation analysis where the items were deemed as valid where the correlation scores were or were above the accepted values. Cronbach alpha was used to measure reliability which is based on the internal consistency; all variables showed valid reliability coefficients which means that the instrument was always measuring the intended constructs.

The processing of data was done in a systematic manner with computerized statistical software. The process involved data editing to ensure completeness and consistency, coding to ease data analysis, data entry and tabulation, and lastly final data cleaning to reduce any errors.

Analysis of data was carried out in steps. To begin with, the distribution and characteristics of each of the variables were described through univariate analysis. It was followed by the bivariate analysis that utilized chi-square test to test the relationship between independent variables and IUD contraceptive use at a level of significance of 0.05. Variables that were found to be statistically significant during the bivariate analysis were then put into the multivariate analysis.

Logistic regression analysis was done to determine the most significant factors related to the use of IUDs whilst adjusting all the other factors. Strength of associations was reported in the

form of odds ratios and confidence intervals thus giving a clear picture of the strength and direction of influence of each factor.

Ethical concerns played a major role in the process of research. The research received the support of the Ethics Committee of the Faculty of Medicine, Andalas University in the form of approval number 282 UN 16.2 KEP FK 2025. Informed consent was taken into account and all the participants were told about the purpose and procedures of the study before they were allowed to participate. Ethical integrity in the study was ensured with the high level of confidentiality and anonymity, as well as the right of the participants to withdraw at any point of the study.

Results and Discussion

Table 1. Characteristics of Couples of Childbearing Age in the Use of IUD Contraceptives

Characteristic	f (n=68)	%
Age 25–34 years old	40	58,8%
Age 35–50 years old	28	41,2%
Number of Children = 2	41	60,3%
Number of Children > 2	27	39,7%
Secondary Education	9	13,2%
Higher Education	59	86,8%
Work	11	16,2%
Not Working	57	83,8%

The majority of couples of childbearing age (PUS) who use IUD contraceptives are in the age group of 25–34 years, have two children, are highly educated, and are not working. This suggests that productive age groups with higher education backgrounds are more likely to choose long-term contraceptive methods such as IUDs.

Table 2. Distribution of IUD Contraceptive Use and Related Factors

Variable	f (n=68)	%
Low IUD Usage	33	48,5%
High IUD Use	35	51,5%
Low Knowledge	21	30,9%
High Knowledge	47	69,1%
Negative Attitudes	14	20,6%
Positive Attitude	54	79,4%
Husband's Support Is Not	41	60,3%
Husband's Support	27	39,7%
Health Worker Support Is Not	17	25,0%
Support Health Workers Support	51	75,0%

Most PUS have a high knowledge and positive attitude towards IUD use. However, support from husbands is still relatively low, while support from health workers is quite high. This shows that despite the knowledge and attitude being good, partner support is still a challenge.

Table 3. The Relationship of Knowledge with IUD Contraceptive Use

Knowledge	Low (%)	Height (%)	Total	p-value	OR
Low	71,4	28,6	21	0,024	4,028
Tall	38,3	61,7	47		

PUS with low knowledge is less likely to use IUDs, whereas those with high knowledge use them more. There is a significant relationship between knowledge and IUD use.

Table 4 Relationship of Attitude with IUD Contraceptive Use

Attitude	Low (%)	Height (%)	Total	p-value	OR
Negative	78,6	21,4	14	0,026	5,333
Positive	40,7	59,3	54		

Negative attitudes towards IUDs correlated with low levels of use. On the contrary, a positive attitude significantly increases the likelihood of IUD use.

Table 5. The Relationship of Husband Support with IUD Contraceptive Use

Husband's Support	Low (%)	Height (%)	Total	p-value	OR
Not	63,4	36,6	41	0,005	4,952
Support	25,9	74,1	27		

Husband's support greatly affects the decision to use IUDs. PUS who receive support from their husbands are more likely to use IUDs than those who do not receive support.

Table 6. The Relationship of Health Worker Support to IUD Contraceptive Use

Health Worker Support	Low (%)	Height (%)	Total	p-value	OR
Not	76,5	23,5	17	0,017	5,038
Support	39,2	60,8	51		

Support from healthcare workers also plays an important role in increasing the use of IUDs. PUS that received support from health workers used IUDs more.

Age

The results of the study showed that PUS has an age of 25-34 years which is the active productive age range. A woman is said to be at a productive age when she is under 35 years old (BKKBN, 2020). In line with research conducted in Europe that most IUD contraceptive users are in the age range of 25-35 years, women of that age prefer IUD contraceptives because at that age the average woman has been married, given birth and has children so they want to run a family planning program well (Capurchande et al., 2017).

At the age of 20-35 years more IUD wearers are more physically and psychologically prepared to deal with pregnancy and maternal roles, in addition to being pregnant at 20-35 years old have better access to education, information and reproductive health services that can help them plan their pregnancy well. The age of 20-35 years is a safe reproductive age because there have been no complications and it is also suitable for a woman to give birth and take care of children. With this age, mothers are better prepared for all problems that arise in caring for and educating to and plan the number of children born (Ware, 1984).

Women who are ≥ 35 years old are at risk of pregnancy and childbirth. The risks that can be experienced include gestational diabetes and gestational hypertension disease which are more easily attacked in pregnant women over the age of 35 years due to the influence of pregnancy opic. Birth of an opic h with low birth rate and the possibility of giving birth opic It is also higher in this age group, as well as the greater likelihood of chromosomal abnormalities in babies born to mothers over 35 years old Pardosi, et all (2021).

Number of Children

The results of the study showed that (60.3%) PUS had 2 children. Women who have >2 children are at high risk of maternal mortality and this risk can be prevented or reduced by using IUD contraceptives. Research conducted in the eastern region of Saudi Arabia shows that PUS in the use of IUD contraceptives mostly has children of 2 or even more people (Alsalem et al., 2018). This is in line with research (Agustini et al., 2015; Harefa & Ndruru, 2022) that PUS who have 2 children have a tendency to use contraceptives that have a high success rate

in limiting the number of children. In addition, PUS who have more than two children is highly recommended to use IUD contraceptives (Usinger et al., 2016). According to Maslow's theory of needs, once basic needs (food, shelter, security) are met, individuals will pursue higher needs such as family stability and healthy relationships that can be achieved through family planning programs.

Education

The results showed that (86.9%) PUS mostly had high knowledge. In line with research conducted by Chen (2011) which states that education level can support and affect a person's level of knowledge, education level is also one of the factors that affect a person's perception to more easily determine new ideas and technologies. The use of IUD contraceptives that are very effective will be chosen by PUS that has higher education and higher knowledge (Chen, 2011).

Work

The results of the study showed that (83.8%) most of the respondents did not work, in line with the research of Usdansky & Wolf (2008) mothers who did not work due to the absence of care or who took care of children when their mothers went to work. Another factor in women's decision not to work is economic factors that require spending on day-care, family social support where no family can help take care of children while the mother works (Lave & Angrist, 1975).

Univariate Analysis

Univariate analysis was carried out to describe the frequency distribution of each of the variables studied, namely knowledge, attitudes, husband support, health worker support, and IUD contraceptive use in couples of childbearing age (PUS). The results of the analysis showed that most of the respondents had a high level of knowledge about IUD contraception. Respondents also showed a positive attitude towards the use of IUDs as a long-term contraceptive device. In addition, most of the respondents received support from both husbands and health workers. These findings indicate that these factors have contributed to IUD contraceptive use decisions among PUSs.

Bivariate Analysis

Bivariate analysis aims to determine the relationship between independent variables (knowledge, attitudes, husband support, and health worker support) and dependent variables (IUD contraceptive use). The statistical test used was the Chi Square test with a 95% confidence level ($\alpha = 0.05$). The results of the analysis showed that there was a significant relationship between the level of knowledge and the use of IUD contraceptives ($p < 0.05$). Respondents with high knowledge tended to use IUD contraceptives more than those with low knowledge. Respondents' attitudes also showed a meaningful relationship with IUD use; respondents with a positive attitude were more likely to choose IUDs as a method of contraception. Husband's support has been shown to have a significant effect on IUD use decisions, suggesting that communication and consent within the household play an important role in decision-making. Similarly, support from health workers was significantly related to IUD use, as education and guidance from health workers increased respondents' understanding and trust in IUD effectiveness.

Multivariate Analysis

Multivariate analysis was performed using logistic regression to determine the dominant factors influencing the use of IUD contraception. The results of the analysis showed that the husband's support variable had the greatest influence on the decision to use IUD contraceptives after being controlled by other variables, with the highest Adjusted Odds Ratio (AOR) value.

This indicates that the higher the husband's support, the greater the chance of a partner of childbearing age to use an IUD. The knowledge and support of health workers also made a positive contribution to IUD use, although the effect was smaller than that of the husband.

Discussion

The results showed that the level of knowledge of respondents was closely related to the decision to use IUD contraception. Good knowledge of the benefits, effectiveness, and side effects of contraceptives increases the tendency of PUS to choose IUDs as a long-term method of contraception. These results are in line with the findings of research by Adiputra et al. (2021) which stated that increased knowledge has a significant effect on contraceptive selection behavior (Pazol et al., 2015; Nsubuga et al., 2015). Respondents' positive attitude towards IUDs is also an important factor. Respondents who have a positive view of the safety and comfort of IUDs are more open to using them. The husband's support factor proved to be the most influential, considering that the decision to use contraception often involved the consent of both parties in the household. The moral and emotional support of the husband provides a sense of security for the wife to use the IUD. This is reinforced by previous research showing that partner involvement in family decision-making has an effect on the success of family planning programs.

In addition, the support of health workers is also a significant determining factor. Health workers act as sources of information and educators that can influence respondents' perception of IUDs. Good education about how to use, benefits, and side effects of IUDs can increase respondents' confidence in choosing the contraceptive method. Overall, the results of this study confirm that the factors of knowledge, attitudes, husband support, and health worker support contribute to the use of IUD contraceptives in couples of childbearing age. The most dominant factor is the husband's support, which indicates the importance of the role of the family in supporting the success of modern contraceptive-based family planning programs.

Conclusion

The characteristics of the respondents at the age of most were 25 – 34 years old, most of the respondents had 2 children, were highly educated and most of the respondents did not work or were IRTs. Most of the respondents had high knowledge, a positive attitude, the husband was not supportive and the role of health workers was supportive but more optimized in the promotion of IUD birth control. There is a relationship between knowledge and the use of IUD contraceptives in couples of childbearing age (PUS) in the working area of the Andalas Health Center, Padang City. There is a relationship between attitude and the use of IUD contraceptives in PUS in the working area of the Andalas Health Center in Padang City. There is a relationship between husband support and the use of IUD contraceptives in PUS in the work area of Pukesmas Andalas, Padang City. There is a relationship between the support of health workers and the use of IUD contraceptives in PUS in the work area of the Andalas Health Center in Padang City. Husband support and health worker support are the most dominant factors related to the use of IUD contraceptives in PUS in the working area of the Andalas Health Center in Padang City..

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