ALGEBRA : JURNAL PENDIDIKAN, SOSIAL DAN SAINS

ISSN : 2807-663X e-ISSN : 2807-629X
Journal Homepage : https://ejournal.yana.or.id/index.php/algebra
Volume 5 Number 3 (2025)

THE RELATIONSHIP BETWEEN KNOWLEDGE OF WOMEN OF REPRODUCTIVE AGE (WRA) AND THE USE OF INTRAUTERINE DEVICES (IUD) AT SEHATI CLINIC IN 2024

Juliana Safitri Ritonga[1], Titin Sundari Nazara[2], Siti Nurul Fadhilah Sari[3], Widya Rahayu[4]
[1]Program Studi S1 Kebidanan, Sekolah Tinggi Ilmu Kesehatan Sehati Medan, Medan, Indonesia
[2]Program Studi D3 Kebidanan, Universitas Wirahusada Medan, Medan, Indonesia
[3]Program Studi S1 Kebidanan, Sekolah Tinggi Ilmu Kesehatan Mitra Sejati, Medan, Indonesia
[4]Program Studi S1 Kebidanan, STIKes RSPAD Gatot Subroto, Jakarta, Indonesia
Correspondence Email: jsafitri432@gmail.com

ABSTRACT

The purpose of this study was to determine the relationship between the knowledge of women of childbearing age and the use of IUD contraceptives at the Sehati Clinic in Medan in 2024. This study used an analytical survey design with a cross-sectional approach. The sample in this study was women of childbearing age who used IUD contraceptives, with a total population of 30 people. The results of this study indicate that the majority of women of reproductive age have insufficient knowledge, with 12 individuals (40.0%) falling into this category. A minority of WRA, 6 individuals (20.0%), have adequate knowledge. The majority of WUS who used IUD contraceptives were 14 people (46.7%), and the minority of WUS who did not use IUD contraceptives were 16 people (53.3%). There is a relationship between the knowledge of women of reproductive age and the use of IUD contraceptives at the confidence level where the p-value is 0.004<0.05. Therefore, the conclusion of this study is that there is a relationship between the knowledge of women of reproductive age (WRA) and the use of IUD contraceptives at the Sehati Clinic in 2024. It is recommended that women of reproductive age (WRA) always participate in health education sessions provided by healthcare workers and seek more information about the effectiveness of IUD so that their knowledge can continue to improve.

Keywords: IUD; knowledge; Women of Reproductive Age (WRA).

INTRODUCTION

Health is a state of physical, mental, and social well-being, therefore health needs to be maintained and improved, especially among women of childbearing age (WCA), one of which is by implementing a family planning program to create healthy and prosperous families through the use of contraceptives.

Contraception comes from the word "contra," meaning to oppose or prevent, and conception refers to pregnancy resulting from sexual intercourse. Thus, contraception refers to efforts made to prevent pregnancy and childbirth. Contraception is part of the effort to minimize the risk of death and disease during pregnancy, making it important in reproductive health services. The types of efforts that can be made to prevent pregnancy can be temporary or permanent (Safitri, 2023).

According to data from the World Health Organization (WHO), more than 100 million couples use contraceptives, with 75% using hormonal contraceptives and 25% using non-hormonal contraceptives. The global contraceptive use rate reached 89% in 2021, and increased to 92.1% in 2022. In Africa, 82% of the population does not use contraceptives. In Southeast, South, and West Asia, 43% use contraceptives (Islam, 2022).

Based on Indonesia's health data report, the number of women of reproductive age (WRA) in Indonesia is 894,461. The number of new family planning participants in Indonesia in 2022 was 6,414,311 (13.46%), which can be broken down as follows: injection users 3,202,924 (49.93%), pill users 1,690,710 (26.36%), implant users 617,968 (9.63%), IUD users 436,571 (6.81%), condom users 350,692 (5.47%), MOW users 104,930 (1.64%), and MOP users 10,516 (0.16%) Meanwhile, the total number of active family planning participants in Indonesia in 2023 was 38,690,214 (62.5%), which can be presented as follows: participants injections 15,419,826 (63.7%), pill users 4,123,424 (17.0%), implant users 1,781,638 (7.4%), IUD users 1,790,336 (7.4%), MOW users 661. 43 1 (2.7%), condom users 301,436 (1.2%), and MOP users 118,060 (0.5%). Active family planning participants predominantly choose injections and pills as contraceptive methods, accounting for over 80% of all methods; injections (63.7%), pills (17.0%), implants (7.4%), IUD/IUD (7.4%), MOW (2.7), MOP (0.5), and condoms (1.2%) (Amra, 2023).

The National Population and Family Planning Agency (BKKBN) reported that the national prevalence of Long-Term Contraceptive Methods (MKJP) in 2022 was 22.6% of the 28% target for 2024 (Kinanti, 2023). The choice of contraceptive method is influenced by several factors such as age, income, the client's desire to prevent or delay pregnancy, culture, and the effectiveness of the contraceptive method in preventing pregnancy. Additionally, the choice of contraceptive method is also influenced by the knowledge and attitudes of women of reproductive age (WRA) (Masturoh, 2023; Takyi, 2023).

Based on data from North Sumatra, the number of active family planning participants according to contraceptive method in 2017 was 1,641,967. Based on the installation of contraceptive devices using MKJP, the use of implants was 252,207 (15.27%), IUD (intrauterine device) was 173,027 (10.48%), MOW (tubectomy) was 114,060 (6.91%), vasectomy (MOP) at 15,636 (0.95%), and non-MKJP contraceptive devices such as injections at 500,135 (30.31%), pills at 467,690 (28.34%), and condoms at 127,659 (7.74%), (Syahada, 2025).

Based on data from the Sehati Clinic in 2023, injectable contraceptives were the most preferred type of contraception across all age groups: 25 people (92.6%) in the under-21 age group, 417 people (74.2%) in the 21-35 age group, and 389 people (82.8%) in the over-35 age group. The 21-35 age group is more open to choosing other contraceptive methods besides injections compared to other age groups, as evidenced by the lower percentage of contraceptive injection use (74.2%) compared to other age groups (92.6% and 82.8%). The next most preferred contraceptive method is the IUD, with 2 people (7.4%) in the under 21 age group, 94 people (16.7%) in the 21-35 age group, and 51 people (10.8%) in the over 35 age group. The implant method was the least preferred method across all age groups. Only 13 people (2.3%) in the 21-35 age group and 4 people (0.9%) in the >35 age group used this method (Maisha, 2025).

The purpose of contraception is to guarantee the protection of people's reproductive rights, help people decide how many children they want, and prevent unwanted pregnancies. Additionally, the proper use of contraception can reduce the risk of maternal and infant mortality. Therefore, ensuring access to and the quality of family planning services must be the top priority in healthcare. To improve access to and the quality of family planning services in accordance with the recommendations of the 1994 International Conference on Population and Development (ICPD), efforts to improve the management of family planning services are considered highly important. The provision of safe, high-

quality, and affordable family planning services to the community is in line with Law No. 36 of 2009, which also assigns responsibility to the government to provide personnel, facilities, equipment, and medicines (Astriana, 2021).

One of the most effective contraceptives is the IUD (intrauterine device). An IUD is a contraceptive device inserted into the uterus, made of small, flexible plastic and copper, with a string to prevent pregnancy. This contraceptive device is highly effective, with a failure rate of 0.5–1 pregnancy per 100 women in the first year of use (Matahari, 2018).

IUDs come in various types and durations of use. The IUD is highly effective in reducing maternal mortality rates and controlling population growth, with an effectiveness rate of up to 99.4%. It can be used for 3–5 years (hormonal type) and 5–10 years (copper type) (Baiq Dewi, 2021). The Intrauterine Contraceptive Device (IUD) is highly effective in spacing pregnancies compared to other contraceptive methods such as injections, pills, and implants. The IUD can prevent pregnancy for up to 10 years with a failure rate of only around 1% (Indrawati, 2021).

Previous research conducted by Noni Dewi Anggraini Ismun titled "The Relationship Between Knowledge of Women of Reproductive Age and the Use of IUDs in the Work Area of the Payung Sekaki Community Health Center in Pekanbaru City in 2023" showed that the research results indicated a p-value of 0.034, indicating a relationship between the knowledge of women of reproductive age (WRA) and the use of IUDs (Sari, 2023). Based on an initial survey conducted at the Sehati Clinic over the past two months (June-July 2024), there were 10 patients who underwent IUD insertion at the Sehati Clinic, while 4 patients refused to undergo IUD insertion.

RESEARCH METHODS

The type of research design used is an analytical survey design, which is a study that seeks to explore how and why a phenomenon occurs. Then, a correlation analysis is conducted between the phenomena, including risk factors and effects, using a cross-sectional approach, where data related to independent variables or risk factors and dependent variables or outcome variables are collected simultaneously. This means that each research subject is observed only once, and measurements are taken of the subject's status or variables at the time of examination. The researcher aims to determine the "Relationship Between Knowledge of Reproductive-Age Women and the Use of IUD Contraceptive Devices at Sehati Clinic in 2024."

The data collection techniques used in this study relied on three main sources. Primary data was obtained directly from respondents through interviews and questionnaires relevant to the research problem. Secondary data included descriptive information related to the research location, such as health care facilities, number of staff, and the implementation of nursing services that supported the analysis of primary data. Meanwhile, tertiary data was sourced from official publications such as the WHO, national health surveys, basic health research, and data from the Health Office related to the use of IUD contraceptives in women of childbearing age.

Data processing was carried out using a computerized system with several systematic stages. The first stage was data collection through questionnaires, surveys, and observations. Next, a checking process is conducted to ensure the completeness and accuracy of the responses. During the coding stage, each variable is assigned a specific code to facilitate processing, and the data is then entered into the SPSS program. The final stage is data processing, where the inputted data is analyzed according to research needs to produce valid, reliable, and bias-free results.

RESULTS AND DISCUSSION

Research Results

Based on the results of a study entitled "The Relationship Between the Knowledge of Women of Childbearing Age and the Use of IUD Contraceptives at the Sehati Clinic in 2024" with a sample size of 30 respondents, the results are described as follows:

Univariate Analysis

Univariate analysis aims to determine the frequency distribution of respondents' answers to variables based on research issues presented in the form of frequency distributions. The results are as follows:

Univariate Analysis of Knowledge of Women of Childbearing Age (WCA)

Table 1. Frequency distribution based on the knowledge of women of childbearing age at the Sehati Clinic in 2024.

No.	Knowledge	Total	
		f	%
1.	Kurang	12	40,0
2.	Cukup	12	40,0
3.	Baik	6	20,0
	Total	**30**	**100**

Based on Table 1 above, it is known that of the 30 WUS respondents, 6 (20.0%) had good knowledge, 12 (40.0%) had adequate knowledge, and 12 (40.0%) had poor knowledge.

Univariate Analysis Using IUD Contraceptive Devices

Table 2. Frequency distribution based on the use of IUD contraceptives at the Sehati Clinic in 2024.

No.	Colostrum Feeding	Total	
		F	%
1.	Not used	16	53,3
2.	Use	14	46,7
	Total	**30**	**100**

Based on Table 2 above, it is known that of the 30 respondents, 16 women (53.3%) did not use IUD contraceptives and 14 women (46.7%) used IUD contraceptives.

Bivariate Analysis

Bivariate analysis aims to determine whether there is a relationship between the independent variable and the dependent variable, resulting in the following findings:

Table 3. Relationship Between Knowledge, Age, Fertility, and Use of IUD Contraceptive Devices at Sehati Clinic in 2024.

Pengetahuan	Use of IUD						
	Use		Not Use		Total		*P*=0,004
	f	%	f	%	f	%	
Baik	5	16,7	1	3,3	6	20,0	
Cukup	8	26,7	4	13,3	12	40,0	
Kurang	1	3,3	11	36,7	12	40,0	
Jumlah	**14**	**46,7**	**16**	**53,3**	**30**	**100**	

Based on Table 3, it can be seen that out of 30 WUS respondents, 5 (16.7%) had good knowledge, of which 1 (3.3%) had good knowledge of the use of IUD contraceptives, and 6 (20.0%) had good knowledge of not using IUD contraceptives. WUS with adequate knowledge: 8 individuals (26.7%), of whom 4 (13.3%) have adequate knowledge regarding the use of IUD contraceptives, and 12 (40.0%) have adequate knowledge regarding the non-use of IUD contraceptives, WUS with insufficient knowledge numbered 1 person (3.3%), of whom 11 people (36.7%) had insufficient knowledge about the use of IUD contraceptives, and 12 people (40.0%) had insufficient knowledge about not using IUD contraceptives.

After conducting a chi-square test, the results showed that there was a significant relationship between the WUS knowledge variable and the IUD contraceptive use variable with a p-value (sig) of 0.000 < α 0.05.

Discussion

After conducting research by collecting data and conducting tests to determine the relationship between the knowledge of women of childbearing age and the use of IUD contraceptives at the Sehati Clinic in 2024.

Univariate Analysis Based on WUS Knowledge About the Use of IUD Contraceptives at the Sehati Clinic in 2024

Based on Table 1, it can be seen that out of 30 respondents, 6 women of reproductive age (20.0%) had good knowledge, 12 women (40.0%) had adequate knowledge, and 12 women (40.0%) had insufficient knowledge. After conducting a chi-square test, the following results were obtained. There is a significant relationship between the knowledge of women of reproductive age and the use of contraceptives with a p-value (sig) of 0.000 < α 0.05.

The results of this study are consistent with the research conducted by Diana titled 'The Relationship Between Knowledge and Interest in Using IUD Contraceptives Among Women of Reproductive Age (WUS).' After combining adequate and insufficient knowledge, an alternative test, the Fisher Exact Test, was used, yielding a p-value of 0.010 < α = 0.05, thus rejecting H_0, indicating a relationship between knowledge and interest in using IUD contraceptives.

Knowledge is a very important factor in shaping a person's actions. In this case, women of childbearing age will not understand how to use IUD contraceptives if they do not know the benefits of using IUD contraceptives.

According to the researcher's assumption, the use of contraceptives is driven by women of reproductive age's knowledge of the benefits of IUD contraceptives, as knowledge influences behaviour. Women of reproductive age (WUS) with good knowledge of IUD are likely to use IUD contraceptives, whereas those with limited knowledge are less likely to do so.

Knowledge acquired either directly or from others' experiences always has varying levels as it grows and develops. When acquiring knowledge, an individual begins with basic awareness, which then evolves into understanding after obtaining sufficient information to develop knowledge. Through ongoing interaction, the knowledge acquired eventually becomes integrated into the individual and influences their behaviour. A person's behaviour is greatly determined by their knowledge of the process of developing their knowledge so that their future behaviour can be even better.

Univariate Analysis Based on the Use of IUD Contraceptive Devices at the Sehati Clinic in 2024

Based on Table 2, it can be seen that of the 30 respondents, 16 women (53.3%) did not use IUD contraceptive devices and 14 women (46.7%) used IUD contraceptive devices. After conducting a chi-square test, it was found that there was a relationship between WUS knowledge and IUD contraceptive use, with a p-value (sig) of 0.00 < α 0.005.

Based on the results of a study conducted by Ade Yayah entitled 'The Relationship between Mothers' Knowledge and the Use of IUD Contraceptives,' data analysis was performed using statistical calculations through a chi-square test with a confidence level (95%) and degrees of freedom (df) = 1 After the data was processed, it was found that there was 1 cell (16.7%) with an expected value < 5, so it was analysed using the Chi-square test with a probability level of α: 0.05. From the data analysis, a Chi-Square value of 10.076 was obtained with a p-value = 0.006 < 0.05. Therefore, based on the hypothesis, the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted, meaning there is a significant relationship between mothers' knowledge of contraceptive devices and their choice to use the IUD contraceptive device.

In this study, there were 18 respondents who did not use IUDs. One of the reasons why WUS did not use IUDs was because of their lack of knowledge, as they did not know that IUDs are very effective in preventing pregnancy. The Intrauterine Contraceptive Device (IUD) is one of the most effective, safe, and reversible long-term contraceptive methods, made of small plastic or metal coils wrapped in copper, available in various sizes, and inserted into the uterus. According to the researchers' assumption, women of reproductive age who lack knowledge about the use of IUDs should be educated and encouraged to use IUDs because they are highly effective in preventing pregnancy over the long term.

Bivariate Analysis of the Relationship Between Knowledge of Women of Reproductive Age and the Use of IUD Contraceptives at the Sehati Clinic in 2024

Based on Table 3, it can be seen that of the 30 respondents of women of reproductive age, 5 (16.7%) had good knowledge, of which 1 (3.3%) had good knowledge of the use of IUD contraceptives IUDs, and 6 (20.0%) had adequate knowledge without using IUDs. Among the WUS with sufficient knowledge, 8 (26.7%) had sufficient knowledge with IUD use, and 12 (40.0%) had sufficient knowledge without using IUDs. WUS with insufficient knowledge numbered 1 person (3.3%), of whom 11 people (36.7%) had insufficient knowledge about the use of IUD contraceptives, and 12 people (40.0%) had insufficient knowledge about not using IUD contraceptives.

The results of this study are similar to those of a study conducted by Avelina Paskalia Gusmanyang titled 'The Relationship Between Knowledge and Attitudes Towards the Selection of IUD Contraceptives Among Women of Childbearing Age (WUS),' which found that 64.50% of respondents with high knowledge used IUD, while 24.00% of respondents with low knowledge used IUD. The p-value < 0.05 indicates a significant relationship between knowledge and the selection of IUDs.

The results of this study are also consistent with those of a study conducted by Noni Dewi titled "The Relationship Between Knowledge and Attitudes of Reproductive-Age Women (WUS) and Behavioural Use of Intrauterine Contraceptive Devices (IUDs), which found that the highest number of respondents who did not use IUDs were in the low knowledge category, with 28 respondents (38.8%), while the highest number of respondents who used IUDs were in the good knowledge category, with 19 respondents (65.5%). Statistical analysis using the chi-square test indicated that WUS knowledge is associated with IUD use behaviour with a p-value of 0.0003 (p-value < 0.05).

From the results of the above study, the research states that there is a relationship between knowledge and the use of IUD contraceptives. Knowledge is a very important domain for the formation of a person's actions. WUS who have good knowledge or sufficient knowledge will know the benefits of using IUD contraceptives.

According to the researcher's assumptions, the results of this study indicate that the aspect of knowledge is very important in understanding the use of IUD contraceptives. Good knowledge will influence WUS to act appropriately; however, this study found that the majority of WUS have insufficient knowledge. The lack of understanding among WUS regarding the benefits of using IUD contraceptives.

The cause of the lack of knowledge among WUS regarding the use of IUD contraceptives is the low desire to seek information about IUD contraceptives. Knowledge can also be influenced by several factors, including education, information, and social and economic environment. Higher education and more information can increase knowledge, while lower education and lack of information can decrease knowledge. The social and economic environment also plays a role in WUS knowledge about the use of IUD contraceptives.

CONCLUSIONS

A study on the relationship between the knowledge of women of reproductive age (WRA) and the use of AKDR contraceptives at the Sehati Clinic in 2024 showed that out of 30 respondents, the majority had insufficient knowledge, with 12 people (40%) falling into this category, while only 6 people (20%) had adequate knowledge. In terms of contraceptive use, the majority of respondents chose to use IUDs, with 14 respondents (46.7%) opting for this method, while the remaining 16 respondents (53.3%) did not use IUDs. Statistical analysis revealed a significant association between the level of knowledge among WUS and AKDR use, with a significance value of 0.004 at a 95% confidence level (α = 0.05). This means that the alternative hypothesis (Ha) is accepted and the null hypothesis (Ho) is rejected, so it can be concluded that the better the knowledge possessed by WUS, the greater the likelihood they will choose IUD use as a contraceptive method.

BIBLIOGRAPHY

Amra, R. N., Rambe, R. S., & Bancin, F. (2023). Factors Influencing Intrauterine Contraceptive Device Uptake. *Journal of Maternal and Child Health*, 8(6), 696–705. https://doi.org/10.26911/thejmch.2023.08.06.03

Astriana, W., & Amelia, W. (2021). Faktor-Faktor yang Mempengaruhi Minat Ibu Untuk Memilih Alat Kontrasepsi Implant di Wilayah Poskesdes Desa Kurungan Nyawa II Tahun 2021. Cendekia Medika: *Jurnal Stikes Al-Ma`arif Baturaja*, 6(2), 118–125. https://doi.org/10.52235/cendekiamedika.v6i2.89

Baiq Dewi, H. R. (2021). Buku Ajar Kesehatan Reproduksi dan Keluarga Berencana. Yogyakarta: Zahir Publishing.

Indrawati, N. D. (2022). Buku Ajar KB dan Pelayanan Kontrasepsi (Jilid 1).

Islam, M. A., Khan, M. N. A., Raihan, H., & Barna, S. D. (2022). Exploring the influencing factors for contraceptive use among women: A meta-analysis of Demographic and Health Survey data from 18 developing countries. *International Journal of Reproductive Medicine*. https://doi.org/10.1155/2022/6942438

Kinanti, G. A. A., Setyarini, A. I., & Indriani, R. (2023). The Correlation of Length of Using IUD and Hemoglobin Levels in IUD Acceptors. *Jurnal Ners Dan Kebidanan (Journal of Ners and Midwifery)*, 10(3), 352–358. https://doi.org/10.26699/jnk.v10i3.ART.p352-358

Maisha, S, A., Saraswati, H, D., Yogi P, A., Aryuti N, S., & Indra, S, A. (2025). Gambaran Pemilihan Metode Kontrasepsi Jangka Panjang (MKJP) Berdasarkan Karakteristik Ibu Pascasalin di UPT Puskesmas Kota Bandung 2023. *Jurnal Penelitian Keperawatan Kontemporer*, 5(4). https://doi.org/10.59894/jpkk.v5i4.999

Masturoh, M., Lathifah, N., & Yuliantie, P. (2023). Faktor-Faktor yang Berhubungan dengan Persepsi Penggunaan Kontrasepsi IUD pada Wanita Usia Subur (Wus) di Wilayah Kerja Puskesmas Bakau Kabupaten Kotabaru. *Health Research Journal of Indonesia*, 2(1), 108–114. https://doi.org/10.63004/hrji.v2i1.301

Matahari, R., Utami, F. P., & Sugiharti, S. (2018). Buku Ajar Keluarga Berencana dan Kontrasepsi. Yogyakarta: Pustaka Ilmu.

Rosyada, A., & Agnes, I, F. (2025). Factors Influencing Contraceptive Usage Among Women Childbearing Age in Indonesia (Analysis of The 2023 Indonesian Health Survey). *Contagion: Scientific Periodical Journal of Public Health and Coastal Health*. 7(1). 50-63. http://dx.doi.org/10.30829/contagion.v7i1.23740

Safitri, M. W. (2023). Analisis determinan pemilihan alat kontrasepsi akseptor KB Kelurahan Wiyung Surabaya. *Prosiding Seminar Nasional Ilmu-Ilmu Sosial (SNIIS) (Vol. 2)*. Universitas Negeri Surabaya.

Takyi, A., Sato, M., Adjabeng, M., & Smith, C. (2023). Factors that influence modern contraceptive use among women aged 35 to 49 years and their male partners in Gomoa West District, Ghana: a qualitative study. *Tropical Medicine and Health*. https://doi.org/10.1186/s41182-023-00531-x