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RESEARCH ARTICLE

The Impact of Information-Based Family Planning Counseling on IUD Adoption as a Long-Term Contraceptive

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Abstract

Regulating the interval between pregnancies is crucial to preventing maternal and infant mortality. The National Population and Family Planning Agency (BKKBN) recommends delaying pregnancies to support women of reproductive age in achieving healthier maternal outcomes. However, limited interest in using Intrauterine Devices (IUD) is influenced by factors such as knowledge and attitudes. This study aims to evaluate the impact of IUD family planning counseling on attitudes and interests among prospective family planning acceptors. This quantitative study employs a quasi-experimental one-group pretest-posttest design. The study population included 55 postpartum mothers, with a sample of 51 participants selected through purposive sampling. Data analysis was conducted using the Nonparametric Wilcoxon Test. Results revealed a statistically significant improvement in attitudes (p-value = 0.000) and interest (p-value = 0.000) following counseling, as indicated by increased mean scores from 21.75 to 27.61 for attitudes and 9.28 to 13.73 for interest. These findings demonstrate that IUD counseling effectively enhances positive attitudes and interest in using long-term contraceptive methods. The study concludes that comprehensive IUD counseling is essential in increasing acceptance of IUD as a contraceptive method. The findings suggest that healthcare providers should adopt tailored, evidence-based counseling approaches to overcome misconceptions and foster supportive environments for women, including engaging family members, particularly spouses. These efforts can contribute to reducing maternal and infant mortality rates through informed contraceptive choices.

Keywords: IUD counseling, family planning, attitudes, interest, postpartum mothers

Abstrak: Mengatur jarak antar kehamilan sangat penting untuk mencegah angka kematian ibu dan bayi. Badan Kependudukan dan Keluarga Berencana Nasional (BKKBN) merekomendasikan untuk menunda kehamilan guna mendukung perempuan usia reproduksi dalam mencapai hasil kesehatan maternal yang lebih baik. Namun, minat yang terbatas dalam penggunaan Alat Kontrasepsi Dalam Rahim (AKDR/IUD) dipengaruhi oleh faktor seperti pengetahuan dan sikap. Penelitian ini bertujuan untuk mengevaluasi pengaruh konseling keluarga berencana IUD terhadap sikap dan minat calon akseptor keluarga berencana. Penelitian kuantitatif ini menggunakan desain kuasi-eksperimen one-group pretest-posttest. Populasi penelitian terdiri dari 55 ibu pascapersalinan, dengan sampel sebanyak 51 partisipan yang dipilih menggunakan teknik purposive sampling. Analisis data dilakukan menggunakan Uji Nonparametrik Wilcoxon. Hasil penelitian menunjukkan peningkatan yang signifikan dalam sikap (nilai p = 0,000) dan minat (nilai p = 0,000) setelah konseling, yang ditunjukkan oleh peningkatan skor rata-rata dari 21,75 menjadi 27,61 untuk sikap, dan dari 9,28 menjadi 13,73 untuk minat. Temuan ini menunjukkan bahwa konseling IUD secara efektif meningkatkan sikap positif dan minat dalam menggunakan metode kontrasepsi jangka panjang. Penelitian ini menyimpulkan bahwa konseling IUD yang komprehensif sangat penting untuk meningkatkan penerimaan IUD sebagai metode kontrasepsi. Temuan ini menyarankan agar tenaga kesehatan mengadopsi pendekatan konseling berbasis bukti yang disesuaikan untuk mengatasi miskonsepsi dan mendorong lingkungan yang mendukung bagi perempuan, termasuk melibatkan anggota keluarga, khususnya pasangan. Upaya ini dapat berkontribusi dalam menurunkan angka kematian ibu dan bayi melalui pilihan kontrasepsi yang terinformasi.

Kata Kunci: Konseling IUD, keluarga berencana, sikap, minat, ibu pascapersalinan

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INTRODUCTION

Family Planning (FP) is a preventive effort to safeguard women's health, particularly postpartum mothers. According to the World Health Organization (WHO), family planning aims to help couples avoid unwanted pregnancies, regulate the number of children, and determine the spacing between pregnancies to achieve an ideal family size based on economic capacity (World Health Organization, 2021). FP programs play a strategic role in addressing rapid population growth, which can negatively impact local development and increase the burden on national development (BKKBN, 2020).

However, the adoption rate of certain contraceptive methods, such as the Intrauterine Device (IUD), remains low in Indonesia. According to the 2020 Indonesian Family Planning Profile, only 8.3% of women use IUDs, despite its recognition as one of the most effective long-term contraceptive methods (Kementerian Kesehatan RI, 2021). In Makassar, the active participation rate in family planning also shows significant disparities compared to the national average. The 2022 South Sulawesi Welfare Profile revealed that only 12.5% of women in Makassar chose IUDs as their contraceptive method.

Psychological and social factors play a critical role in the low adoption of IUDs. Many women harbor negative perceptions about IUDs due to pervasive myths, such as fears of side effects, embarrassment, or adverse impacts on sexual relationships (Dinas Kesehatan Makassar, 2022). Global research also highlights that cultural and social stigmas often reinforce these misconceptions, especially in developing countries, thereby hindering women from making informed contraceptive decisions (Dehlendorf et al., 2016; Namasivayam et al., 2022).

A lack of knowledge and family support, particularly from spouses, remains a primary barrier to contraceptive decision-making (Zulhaedah et al., 2024). Research by Oduyebo et al. (2019) revealed that partner involvement in family planning counseling significantly increases the adoption of long-term contraceptive methods, including IUDs. Furthermore, limited access to accurate information often reinforces biases about the effectiveness and safety of IUDs, particularly in communities with low health literacy (Melkani et al., 2023).

Hence, information-based counseling interventions that aim to provide accurate information and empower women are deemed critical in overcoming these barriers. Counseling programs emphasizing evidence-based approaches, effective communication, and partner involvement have been proven to enhance IUD acceptance in various regions (Daniele et al., 2017; Wright et al., 2012). Individualized counseling tailored to women's needs has also been shown to effectively reduce fears and build confidence in choosing contraceptive methods (Fazal et al., 2023).

Information-based family planning counseling plays a pivotal role in transforming women's attitudes and interests toward contraception. According to the Health Belief Model (HBM), perceptions of risk, benefits, barriers, and cues to action are key determinants in individual decision-making regarding health (Glanz et al., 2015). The model also emphasizes that providing relevant information, personalizing messages, and offering emotional support can help overcome psychological barriers to adopting long-term contraceptives such as IUDs.

Research indicates that structured information-based counseling can enhance reproductive health literacy and alleviate fears surrounding IUDs. For instance, Zapata et al. (2015) identified that fact-based approaches using visual aids, such as diagrams or animated videos, can significantly improve women's understanding of the safety and effectiveness of IUDs. Additionally, counseling that highlights long-term health benefits, such as preventing unintended pregnancies and reducing the risk of complications, has been shown to foster positive attitudes toward IUDs (Daniele et al., 2017).

Counseling also plays an essential role in building trust between healthcare providers and patients. A study by Dehlendorf et al. (2016) found that empathetic and supportive communication significantly increased the acceptance of contraceptive methods, including IUDs. These strategies involve understanding patients' social and cultural contexts and setting realistic expectations about IUD use and potential side effects.

Moreover, HBM-based approaches not only enhance attitudes but also influence women's interest in contraception. Wright et al. (2012) reported that women who received personalized counseling about IUDs were more likely to choose this method compared to those who only received general information. This underscores the importance of personalization in family planning counseling to ensure that the information is relevant to individual needs.

Although numerous studies have identified barriers to IUD adoption, there is a gap in understanding how counseling interventions directly influence women's attitudes and interest in IUDs, particularly in the Indonesian context. Previous research has predominantly focused on the general effectiveness of counseling without addressing the local and culturally specific dimensions that influence contraceptive decisions (Daniele et al., 2017; Wright et al., 2012). Furthermore, the lack of data on the impact of information-based counseling on contraceptive behavior change in Makassar highlights the need for deeper empirical investigations to address this gap.

This study aims to analyze the impact of IUD family planning counseling on the attitudes and interests of prospective family planning acceptors at Wisata Universitas Indonesia Timur Hospital, Makassar. As one of the most effective long-term contraceptive methods, IUDs hold significant potential in reducing unintended pregnancies. However, the low adoption rate of IUDs in Indonesia, including in Makassar, underscores the need for more strategic approaches to enhance understanding, interest, and positive attitudes toward their use. This study employs the Health Belief Model (HBM), which theoretically explains that individual perceptions of pregnancy risk, IUD benefits, perceived barriers, and cues to action are key factors influencing health decisions (Glanz et al., 2015). Using this framework, the study explores how information-based counseling can help women understand the importance of IUDs as safe and effective contraceptive tools and overcome psychological and social barriers that often arise.

Furthermore, this study makes a significant contribution to the development of national family planning programs by providing empirical evidence on the effectiveness of information-based counseling approaches in increasing IUD adoption. As an evidence-based approach, the findings of this study are expected to inform the design of more adaptive interventions tailored to local needs, such as culturally and socially responsive counseling in Makassar. Thus, this study not only offers new insights into how counseling can influence attitudes and interest in long-term contraception but also serves as a basis for formulating more effective and sustainable reproductive

health policies in Indonesia. These findings also have the potential to be applied more broadly in other regions facing similar challenges in increasing the adoption of long-term contraceptive methods, thereby strengthening national efforts to reduce birth rates and improve reproductive health outcomes.

METHODS

Study Design

This study is a descriptive quantitative research employing a pre-experimental approach with a single-group pretest-posttest design. This design aims to evaluate changes within the same group before and after the intervention, in this case, IUD family planning counseling (Notoatmodjo, 2002). The research was conducted at the Tourism Clinic of Wisata UIT Hospital, Makassar.

Sampling and Inclusion-Exclusion Criteria

The study population consisted of all postpartum mothers receiving services at the Tourism Clinic of Wisata UIT Hospital. A total of 51 respondents were selected using purposive sampling. The inclusion criteria were: (1) postpartum mothers willing to participate in IUD family planning counseling, (2) within the first six weeks postpartum, and (3) without medical contraindications for IUD use. The exclusion criteria included postpartum mothers with severe medical complications or those unable to attend the study sessions.

Research Instruments

The research instrument was a questionnaire specifically designed to align with the study objectives. The validity of the instrument was tested using content validity by a panel of three family planning specialists. Reliability was assessed using Cronbach's alpha, yielding values of 0.85 for the attitude scale and 0.87 for the interest scale, indicating good internal consistency (Dehlendorf et al., 2016).

Study Procedures

The counseling sessions were conducted in two parts, each lasting 30 minutes. The first session focused on delivering information about IUDs, including their benefits, risks, side effects, and mechanisms of action. The second session was interactive, involving discussions between the counselor and the respondents to address questions and concerns. Counseling materials included visual aids such as posters and anatomical diagrams, following recommendations by Zapata et al. (2015) to enhance women's understanding.

The counseling sessions spanned two weeks, with each respondent attending two sessions. This format ensured that the provided information was well comprehended and gave participants opportunities to ask questions or clarify unclear information. Studies like Reyes-Martí et al. (2021) have shown that interactive counseling supported by visual aids effectively improves contraceptive acceptance.

Data Analysis

Data analysis was performed in two stages. Univariate analysis described respondent characteristics and variable distributions, while bivariate analysis evaluated differences between pretest and posttest scores using the nonparametric Wilcoxon test due to the non-normal data distribution ($p < 0.05$, Kolmogorov-Smirnov test). The Wilcoxon test was chosen because it effectively analyzes changes in ordinal data before and after an intervention within a single group. This method allowed for the significant examination of attitude and interest scores without requiring assumptions of normality.

RESULTS OF STUDY

Univariate analysis revealed a significant improvement in attitudes and interest among prospective family planning acceptors following IUD counseling. According to Table 1, the number of respondents with positive attitudes before counseling (pre-test) was 14 (27.5%), which increased to 38 (74.5%) after counseling (post-test). Conversely, the number of respondents with negative attitudes decreased from 37 (72.5%) to 13 (25.5%) after counseling. This improvement highlights the significant influence of counseling on participants' attitude changes.

Table 1.
Mental Recurrence and Recurrence of Desire of Implant of KB Acceptors During ID KB Guidance (N= 102)

	Pre-test		Post-test	
Mental Recurrence	**N**	**%**	**N**	**%**
Positive	14	27,5	38	74,5
Negative	37	72,5	13	25,5
Recurrence of Desire of Implant				
Wanting	21	41,2	35	68,6
Not Wanting	30	58,8	16	31,4

Table 2 shows that the mean attitude score increased from 21.75 (SD = 5.477) in the pre-test to 27.61 (SD = 5.528) in the post-test. Similarly, the mean interest score increased from 9.28 (SD = 4.361) in the pre-test to 13.73 (SD = 4.327) in the post-test. These findings indicate that IUD counseling not only enhanced positive attitudes but also increased interest in using long-term contraceptive methods.

Table 2.
Degree of KB Acceptors' Mentality and Desire of KB Acceptors During ID KB Consultation

KB Acceptors' Mentality	Mean	SD	Score	
			Min	Max
Before	21,75	5,477	16	38
After	27,61	5,528	19	39
Desire of KB Acceptors				
Before	9,28	4,361	6	20
After	13,73	4,327	6	20

Bivariate analysis using the Kolmogorov-Smirnov normality test showed that the data were not normally distributed ($p < 0.05$). Consequently, further analysis was conducted using the Wilcoxon test to evaluate changes between pre-test and post-test scores (Table 3). Table 4 presents the Wilcoxon test results, with a p-value of 0.001, which is smaller than $\alpha = 0.05$, indicating a significant relationship between IUD family planning counseling and changes in respondents' attitudes and interests. The mean positive rank was higher than the negative rank, demonstrating that most respondents experienced improvements in attitudes and interests after counseling.

Table 3.
Information on Experimental Results Normality

Data	P-Value			Conclusion
	N	Pre-test	Post-test	
Action	51	1,100	1,100	Not Normally Distributed
Desire	51	1,100	1,100	Not Normally Distributed

Table 4.
Impact of Guidance on Family Planning Perspective and Development of Pregnant Women's Benefits

Mean Rank			
Variable	Negative Ranks	Positive Ranks	P Value
Before Action After Action	9,10	21,29	0,001
Desire Before Desire After	1,10	26,10	0,001

The significant increase in attitudes and interests underscores the effectiveness of information-based family planning counseling in altering perceptions and raising awareness among prospective family planning acceptors. These findings are consistent with Dehlendorf et al. (2016), who reported that empathetic, evidence-based communication in family planning counseling enhances the acceptance of long-term contraceptive methods. Additionally, the use of visual-based approaches, as applied in this study, effectively helped participants understand complex information.

DISCUSSION

Impact of ID Counseling on Behavioral Development

The findings reveal that IUD family planning counseling significantly influences the behavioral development of postpartum women. The increase in the mean score from 21.75 in the pre-test to 27.61 in the post-test (SD = 5.528) demonstrates the positive impact of counseling on participants' attitudes. According to the Health Belief Model (HBM), this change can be attributed to increased perceptions of IUD benefits and reduced psychological barriers that previously hindered adoption (Glanz et al., 2015). Emphasizing evidence-based information and the use of visual aids, such as diagrams and other tools, helped participants effectively absorb the information and build confidence in this method (Zapata et al., 2015; Melkani et al., 2023).

This study aligns with research by Dehlendorf et al. (2016), which highlights that empathetic and evidence-based communication significantly improves the acceptance of long-term contraceptives. Similarly, Oye-Adeniran et al. (2006) found that community-based education delivered by health counselors increased contraceptive literacy by up to 35% among women with lower educational levels, supporting the findings in Makassar.

Counseling was also effective in addressing misconceptions about IUDs. Common misconceptions, such as beliefs that IUDs disrupt sexual relations or cause discomfort, reflect a lack of accurate information often reinforced by local social norms (Namasivayam et al., 2022). This study demonstrates that fact-based counseling not only enhances knowledge but also reduces stigma and fear associated with IUDs, consistent with findings by Daniele et al. (2017), who reported that personalized education approaches improved IUD adoption rates by up to 40%.

The implications of these findings are highly relevant to Indonesia's national family planning programs. Research by Ekoriano et al. (2021) underscores the importance of personalized family planning counseling in building participants' confidence in long-term contraceptive methods. Globally, this study adds evidence that HBM-based approaches can be universally applied across cultural contexts to overcome barriers to contraceptive adoption (Reyes-Martí et al., 2021; Fazal et al., 2023).

Furthermore, partner involvement in the counseling process has been proven to be a critical element. Ajah et al. (2015) found that partner support enhances women's confidence in IUDs and reduces the likelihood of discontinuation due to social or psychological pressures. This is particularly relevant in regions like Makassar, where family decisions are often influenced by interpersonal dynamics.

Impact of IUD Family Planning Guidance on the Development of Empowerment

The increase in the mean interest score from 9.28 in the pre-test to 13.73 in the post-test (SD = 4.327) reflects the effectiveness of counseling in fostering women's interest in using IUDs. Within the HBM framework, this change signifies increased intrinsic motivation reinforced by perceived risks of unintended pregnancies and the long-term benefits of IUDs (Hall, 2012). This motivation was further supported by improved understanding of the health and social advantages of IUDs, including long-term protection, high effectiveness, and reduced risks of pregnancy-related complications (Da Costa et al., 2019).

The Wilcoxon test results (p-value = 0.001) indicate a significant relationship between family planning counseling and participants' enhanced interest. This aligns with Fox et al. (2018), who emphasized that visual and experiential approaches in counseling improve positive perceptions of long-term contraceptive methods. Similarly, research in Bangladesh by Bhatia et al. (2024) demonstrated that community-based counseling programs involving local healthcare workers and simple technologies increased contraceptive acceptance by up to 35%.

In Indonesia, these findings are consistent with a study by Rahayu et al. (2023), which identified that involving partners and families in counseling improves women's decisions to choose long-term contraceptive methods. Globally, evidence supports that evidence-based counseling and interpersonal communication are effective strategies for enhancing long-term contraceptive adoption in developing countries (Kiran & Zia, 2024).

Additionally, the importance of culturally sensitive approaches in family planning program design is evident. Gu (2022) reported that family planning programs tailored to local cultural values increased IUD acceptance by 40%, particularly in rural areas with low health literacy. These findings are relevant to Indonesia, where social and cultural norms significantly influence contraceptive adoption. Darroch et al. (2016) highlighted that social and cultural barriers, such as gender norms assigning family planning decisions to men, can be addressed through community-based counseling involving partners and families. Sajjad et al. (2023) in Pakistan also demonstrated that culturally integrated programs involving partner engagement improved IUD acceptance by 45%.

In the local context, this study emphasizes the importance of partner involvement as a key supporter in women's contraceptive decision-making. Similar findings were observed by Utami et al. (2022) in Yogyakarta, Indonesia, where partner involvement in family planning counseling increased women's confidence in choosing long-term contraceptive methods. Partner engagement also reduced misconceptions, which often serve as significant barriers to IUD adoption.

CONCLUSIONS AND RECOMMENDATION

This study establishes a significant relationship between IUD family planning counseling and the acceptance and interest of family planning acceptors at the Tourism Clinic of Wisata UIT Hospital, Makassar, with a p-value of 0.001 (< α 0.05). The increase in mean attitude and interest scores post-counseling highlights the effectiveness of information-based approaches in altering perceptions and enhancing IUD acceptance as a long-term contraceptive method. These findings underscore the importance of culturally sensitive and personalized approaches in supporting women's reproductive health decisions, providing a substantial contribution to the development of more adaptive and evidence-based family planning counseling strategies.

Based on these findings, it is recommended that family planning counseling programs integrate strategies involving spouses and families as primary supporters in women's contraceptive decision-making. Counseling materials should be tailored to local needs, incorporating interactive multimedia such as videos and graphics to strengthen information delivery. Additionally, community-based programs involving local leaders and healthcare providers are essential to reducing stigma associated with IUDs and improving women's access to family planning services.

Further research is recommended to enhance the external validity of these findings. Studies involving control groups could provide stronger and more generalizable results. Moreover, in-depth exploration of the social and cultural barriers influencing IUD acceptance in various regions could offer additional insights for developing more effective family planning policies. These recommendations are expected to support the sustainability of national family planning programs and accelerate progress toward achieving reproductive health goals outlined in the Sustainable Development Goals (SDGs).

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