



FACTOR ANALYSIS OF DETERMINANTS INFLUENCING THE USE OF IMPLANT CONTRACEPTION AMONG WOMEN OF REPRODUCTIVE AGE

Mulyadi Paramata*, Herlina Yusuf, Sunarto Kadir

Master of Public Health Program, Graduate School, Universitas Negeri Gorontalo, Jl. Jend. Sudirman No.6, Dulalowo Timur, Kota Tengah, Kota Gorontalo, Gorontalo 96128, Indonesia

*mulyadiparamata1717@gmail.com

ABSTRACT

Implant contraceptives are long-acting reversible methods intended to prevent pregnancy and are considered highly effective and non-permanent. Implants can provide protection for three to five years with a failure rate of only 0.05 per 100 users, achieving effectiveness of up to 99%. However, the utilization of implant contraception remains influenced by various factors. This study aimed to analyze the factors influencing the use of contraceptive implants among couples of reproductive age in the working area of the Kabila Community Health Center. This study employed an analytical observational design with a cross-sectional approach. The research was conducted in the working area of the Kabila Community Health Center, Bone Bolango Regency, from April to May 2025. A total of 173 respondents were selected using a simple random sampling technique. Data were collected using a structured questionnaire that had been validated through expert judgment and item-total correlation analysis and demonstrated good reliability with a Cronbach's alpha value greater than 0.70. The data were analyzed using the chi-square test. The results showed that visits by family planning officers ($p = 0.000$), availability of contraceptives ($p = 0.029$), and contraceptive service costs ($p = 0.000$) were significantly associated with the use of contraceptive implants. This study concludes that family planning officer visits, contraceptive availability, and service costs are significant factors influencing the use of contraceptive implants among couples of reproductive age in the working area of the Kabila Community Health Center, Bone Bolango Regency.

Keywords: availability; contraceptive implants; couples of reproductive age (CRA); service costs; staff visits

How to cite (in APA style)

Paramata, M., Yusuf, H., & Kadir, S. (2026). Factor Analysis of Determinants Influencing the Use of Implant Contraception among Women of Reproductive Age. *Indonesian Journal of Global Health Research*, 8(3), 111–118. <https://doi.org/10.37287/ijghr.v8i3.1257>.

INTRODUCTION

Couples of reproductive age (CRA) in Indonesia play a crucial role in the successful implementation of the Family Planning (FP) program. Couples of reproductive age refer to individuals within the reproductive age range of 15 to 49 years who generally have the capacity to plan and decide on the number of children they desire. Given their significant role in shaping demographic policies, reproductive health outcomes, and the achievement of the Sustainable Development Goals (SDGs), understanding the factors that influence contraceptive use among couples of reproductive age is highly relevant.

According to data from the National Population and Family Planning Board (BKKBN) in 2023, there are significant regional differences in preferences for contraceptive methods, reflecting social, economic, and healthcare accessibility factors (BKKBN, 2023). Globally, the use of modern contraception among couples of reproductive age continues to increase. Data from the World Health Organization (WHO) indicate that contraceptive use in developing countries is steadily rising, with implant contraception receiving increasing attention (WHO, 2021). Implant contraceptives, as a form of long-acting reversible contraception, are considered more effective and practical than short-term methods such as pills or injections. Implants have a high effectiveness rate of up to 99% and a long duration of use ranging from three to five years, making them a popular choice among women worldwide (WHO, 2021). These advantages play a significant role in reducing unintended pregnancies and contributing to improvements in maternal and child health outcomes.

In Indonesia, BKKBN data from 2023 show that modern contraceptive use among couples of reproductive age includes various methods with differing proportions. Injectable contraceptives are the most widely used method at 35.4%, followed by oral pills at 13.2%, while implant use accounts for 10.5%. Although implant utilization is notable, it remains lower compared to injectable and oral methods. This situation reflects ongoing challenges related to knowledge, access, and acceptance of implant contraceptive methods among couples of reproductive age (BKKBN, 2023).

A similar pattern is observed in Gorontalo Province, particularly in Bone Bolango Regency. Based on data on active family planning participants in Bone Bolango Regency in 2023, intrauterine devices (IUDs) dominated usage with a percentage of 84.11%, while implant use was recorded at 85.45%. These figures indicate relatively good implant utilization in the region; however, challenges remain regarding community awareness and diversity of contraceptive method preferences (BKKBN, 2023). At the Kabila Community Health Center, one of the main healthcare facilities in Bone Bolango Regency, data indicate that although implant use has increased, challenges persist in enhancing public awareness and accessibility to modern contraceptive services, particularly implant methods.

The importance of conducting this thesis research at the Kabila Community Health Center, Bone Bolango Regency, Gorontalo, is rooted in the need to improve reproductive health conditions in the area. The Kabila Community Health Center has the potential to provide better family planning services for the local population; however, it faces limitations in terms of counseling coverage, community understanding, and the availability of trained human resources. Although implants are an effective method with a proven high success rate, many couples of reproductive age in this region do not yet fully understand the benefits and proper use of implant contraception. This study aims to analyze the factors influencing the use of implant contraceptives among couples of reproductive age at the Kabila Community Health Center, with the expectation of providing practical solutions that can be applied to increase community participation in the family planning program.

Previous studies have shown that educational level, knowledge of contraception, and accessibility of healthcare services are key factors influencing contraceptive method choice among couples of reproductive age (Smith et al., 2020). In this context, effective counseling and appropriate dissemination of information play a critical role in shaping contraceptive choices, including implant use. Social and cultural factors also influence these decisions, as trust in modern contraceptive methods is often shaped by local values and perceptions of safety (Haryanto, 2022). Therefore, it is essential to understand the local context of the Kabila Community Health Center and how these factors influence contraceptive method selection.

This study is also relevant given the importance of family planning programs in supporting Indonesia's national development goals, particularly in population control and improving quality of life. Therefore, an analysis of the factors influencing implant contraceptive use among couples of reproductive age at the Kabila Community Health Center will provide new insights that can be used to design more effective strategies to increase modern contraceptive utilization in the region. By utilizing the most recent data, this study is expected to serve as a foundation for formulating more targeted policies at the local level.

The objective of this study is to analyze the determinants influencing the use of implant contraception among couples of reproductive age in the working area of the Kabila Community Health Center, Bone Bolango Regency, including the availability of implant contraceptive services, service costs, and staff visits, in order to identify the key factors that most significantly contribute to the utilization of implant contraception.

METHOD

This study employed an analytical observational design using a cross-sectional approach. The research was conducted in the working area of the Kabila Community Health Center, Bone Bolango Regency, from April to May 2025. A total of 173 respondents were selected using a simple random sampling technique. Data were collected using structured questionnaires.

The questionnaire was developed based on relevant literature and expert consultation. Prior to data collection, the instrument underwent validity and reliability testing on respondents with similar characteristics outside the study sample. Content validity was assessed through expert judgment, while construct validity was evaluated using item–total correlation analysis, with all questionnaire items demonstrating correlation coefficients greater than 0.30. Reliability testing showed satisfactory internal consistency, with a Cronbach’s alpha value exceeding 0.70, indicating that the instrument was reliable. The collected data were analyzed using the chi-square test. A 95% confidence level was applied, with the decision rule that the null hypothesis (H_0) was accepted if the probability value (p-value) was greater than 0.05 and rejected if the p-value was less than 0.05.

RESULT

Characteristics of Respondents by Age

Table 1.
Characteristics of Respondents Based on Age

Age	n	%
18-24 years old	23	13.3
25-29 years old	42	24.3
30-34 years old	35	20.2
35-39 years old	40	23.1
40-44 years old	21	12.1
> 44 years old	12	6.9

Based on table 1, it shows that the most age respondents are 25-29 years old (24.3%), while the least is >44 years old (6.9%).

Characteristics of Respondents Based on the Number of Children

Table 2/
Characteristics of Respondents Based on the Number of Children

Number of Children	n	%
1 Child	33	19.1
2 Children	52	30.1
3 Children	44	25.4
4 Children	29	16.8
5 or more	15	8.7

Based on table 2, it shows that the respondents with the highest number of children are 2 children (30.1%), while the least are 5 or more children (8.7%).

The Effect of Family Planning Officer Visits on the Use of Implant Contraceptives

Table 3.

The Effect of Family Planning Officer Visits on the Use of Implant Contraceptives in Couples of Childbearing Age

		Childbearing Age					
Family Planning Officer Visit	Using Implants						<i>p-value</i>
	No		Yes		Total		
	f	%	f	%	f	%	
Low	55	90.2	6	9.8	61	100.0	0.000
Medium	78	95.1	4	4.9	82	100.0	
Height	0	0.0	30	100.0	30	100.0	

Table 3 shows the effect of family planning officers' visits on the use of implantable contraception. Most of the respondents who felt low and moderate influence from the family planning officer's visit did not use implants, while in the group that felt high influence, all respondents used implants. The P-value of 0.000, which is smaller than the alpha value (0.05), shows that there is a very significant influence between the visit of family planning officers and the use of implantable contraceptives in couples of childbearing age in the Kabila Health Center area.

The effect of the availability of contraceptives on the use of implant contraceptives in couples of childbearing age

Table 4.

Effect of the availability of contraceptives on the use of implant contraceptives in couples of childbearing age

Availability of Contraceptives	Using Implants						<i>p-value</i>
	No		Yes		Total		
	f	%	f	%	f	%	
Low	26	74.3	9	25.7	35	100.0	0.029
Medium	73	84.9	13	15.1	86	100.0	
Height	34	65.4	18	34.6	52	100.0	

Table 4 shows the effect of the availability of contraceptives on the use of implantable contraceptives. Respondents with low contraceptive availability tended to use fewer implants (25.7%), while respondents with high contraceptive availability had a greater proportion of implant use (34.6%). The P-value of 0.029 which is smaller than the alpha value (0.05) indicates that there is a significant influence between the availability of contraceptives on the use of implant contraceptives in couples of childbearing age in the working area of the Kabila Health Center.

The effect of contraceptive service costs on the use of implant contraceptives in couples of childbearing age in the work area of the Kabila Health Center

Table 5.

The effect of contraceptive service costs on the use of implant contraceptives in couples of childbearing age

Cost of Contraceptive Services	Using Implants						<i>p-value</i>
	No		Yes		Total		
	f	%	f	%	f	%	
Low	58	89.2	7	17.5	65	100.0	0.000
Medium	52	83.9	10	16.1	62	100.0	
Height	23	50.0	23	50.0	46	100.0	

This table shows the effect of the cost of contraceptive services on the use of implantable contraceptives. Respondents with low service costs were more likely to not use implants (89.2%), while in the high-cost group, implant use was more balanced, with 50% using and 50% not using implants. The p-value of 0.000, which is smaller than the alpha value (0.05), indicates that there is a very significant influence between the cost of contraceptive services and the use of implantable contraceptives in couples of childbearing age in the Kabila Health Center area.

DISCUSSION

The availability of contraceptive methods is one of the key factors influencing contraceptive choice among couples of reproductive age. According to a study by Oktavianah et al. (2023), adequate availability of contraceptive devices in healthcare facilities can improve accessibility and convenience for users, thereby encouraging the selection of long-acting contraceptive methods such as implants. This finding is consistent with the theory proposed by Davis and Blake (1956), which states that factors such as the availability of facilities and infrastructure influence individual decisions regarding contraceptive use.

Research by Oktarida (2019) also demonstrated a significant relationship between the availability of contraceptive methods and the choice of implant contraception among couples of reproductive age. These findings reinforce the importance of contraceptive availability in healthcare facilities in increasing the uptake of implant contraception. In addition to availability, spousal support has been identified as an influential factor in decisions regarding implant use. A study conducted in the working area of the Lipat Kajang Community Health Center in 2022 reported a p-value of 0.032, indicating a significant association between husband's support and the use of implant contraception among couples of reproductive age.

Beyond contraceptive availability, other factors such as knowledge, attitudes, and family support also influence decisions regarding implant contraceptive use. A study by Safitriani Eva et al. (2022) found that maternal knowledge and attitudes, as well as husband's support, were significantly associated with the selection of implant contraceptives. Clear information delivery and effective counseling can assist couples of reproductive age in making informed decisions about contraceptive methods that best suit their needs and circumstances. Furthermore, the quality of healthcare services plays an important role in influencing implant contraceptive use. Research by Mutiara A. (2024) indicated that high-quality healthcare services increase user satisfaction and encourage the selection of long-acting contraceptive methods such as implants. Factors including effective communication, healthcare provider empathy, and adequate information availability contribute to the perceived quality of services.

The cost of contraceptive services is another important factor influencing contraceptive method choice among couples of reproductive age. According to Damayanti (2013), most family planning acceptors perceive non-long-acting contraceptive methods as less expensive, whereas long-acting reversible contraceptive methods (LARCs) are often perceived as costly. However, when evaluated from an economic perspective over the long term, LARC methods are actually more cost-effective than non-LARC methods. Most acceptors tend to focus on the initial insertion cost rather than the cumulative cost over extended use. Although the upfront cost of LARC insertion appears higher, when considered over the duration of use, LARCs are more economical than short-term contraceptive methods.

In addition, a study by Kamaruddin et al. (2020) showed that high contraceptive service costs can serve as a barrier for couples of reproductive age in choosing implant contraception. This is largely due to economic constraints faced by many couples, leading them to prefer less expensive contraceptive methods despite their lower effectiveness. Therefore, it is essential for governments and relevant institutions to provide affordable contraceptive services in order to improve access to implant contraceptive methods.

Further evidence from Safitriani et al. (2022) confirms that maternal knowledge and attitudes, along with husband's support, are significantly associated with implant contraceptive selection. The provision of clear information and high-quality counseling can help couples of reproductive age make appropriate decisions regarding contraceptive methods that align with their needs and conditions. Moreover, the quality of healthcare services remains a critical determinant of implant use. Mutiara A. (2024) emphasized that good service quality enhances user satisfaction and promotes the adoption of long-acting contraceptive methods such as implants. Effective communication, healthcare provider empathy, and adequate information availability are key components contributing to perceived service quality.

Family planning officer visits constitute one of the strategic approaches within family planning programs to increase public awareness and participation in contraceptive use (Ministry of Health, 2021). According to Rahman (2019), effective communication between family planning field officers and couples of reproductive age can enhance community understanding of the benefits and

proper use of contraceptive methods, including implants (Noar & Harrington, 2020). This is consistent with health communication theory, which emphasizes that clear and effective communication plays a crucial role in shaping individuals' attitudes and behaviors toward reproductive health (Abita & Girma, 2022).

A study by Kusuma and Arka (2021) conducted in Badung Regency also found that the role of family planning officers had a significant influence on contraceptive decision-making among couples of reproductive age. However, the study also noted that other factors, such as husband's support and community perceptions, contributed to these decisions. Therefore, a holistic approach involving multiple stakeholders is necessary to enhance community participation in family planning programs.

Additionally, research by Rahmawati et al. (2024) in Piyungan Village revealed that community participation in family planning programs is influenced by the involvement of couples of reproductive age, particularly women of reproductive age. Counseling provided by family planning officers was found to improve community knowledge and attitudes toward contraceptive use, thereby encouraging the selection of contraceptive methods that are appropriate to individual needs and conditions.

CONCLUSION

Based on the study findings, it can be concluded that several factors significantly influence the use of implant contraception among couples of reproductive age in the working area of the Kabila Community Health Center, Bone Bolango Regency. These factors include visits by family planning (FP) officers, the availability of contraceptive methods, and the cost of contraceptive services. The analysis demonstrated that visits by FP officers had a highly significant association with implant contraceptive use ($p = 0.000$), indicating the crucial role of healthcare providers in delivering information, counseling, and motivation to couples of reproductive age. In addition, the availability of implant contraceptives was significantly associated with their utilization ($p = 0.029$), highlighting access to service facilities as a key supporting factor. Contraceptive service costs were also found to have a highly significant relationship with implant use ($p = 0.000$).

REFERENCES

- Abita, Z., & Girma, D. (2022). Exposure to mass media family planning messages and associated factors among youth men in Ethiopia. *Heliyon*, 8(9), e10544. <https://doi.org/10.1016/j.heliyon.2022.e10544>
- BKKBN. 2023. Data Statistik Keluarga Berencana Indonesia 2023. Badan Kependudukan dan Keluarga Berencana Nasional.
- Damayanti, E., & Sabarinah, S. 2021. Faktor yang memengaruhi pemilihan metode kontrasepsi di Indonesia. *Jurnal Kesehatan Masyarakat Nasional*, 8.2, 91-98.
- Glanz, K., Rimer, B. K., & Viswanath, K. (2015). *Health behavior: Theory, research, and practice* (5th ed.). Jossey-Bass
- Haryanto, R. 2022. The Influence of Social and Cultural Factors on Contraceptive Use in Indonesia. *Indonesian Journal of Public Health*, 45(2), 123-130.
- Kamaruddin, M., Mudyawati, dkk. 2020. Faktor-Faktor Yang Berhubungan Dengan Minat Ibu Terhadap Penggunaan Metode Kontrasepsi Implan Di Wilayah Puskesmas Ponre Kecamatan Gantarang Kabupaten Bulukumba. *Jurnal Medika Alkhairaat*, VI(2), 156-166.
- Kemenkes Republik Indonesia. (2021). *Profil kesehatan Indonesia 2020*. Kementerian Kesehatan RI.
- Kusuma, N. K. S., & Arka, S. 2021. Analisis faktor yang mempengaruhi keputusan pasangan usia subur dalam penggunaan alat kontrasepsi di Kabupaten Badung. *Jurnal Ilmiah Ekonomi Bisnis*, 26(2), 123-135.

- Mutiara A. 2024. Gambaran pemilihan alat kontrasepsi implan pada responden usia subur di Puskesmas Pembina Kota Palembang Tahun 2024. *Jurnal Aisyiyah Medika*, 9(12), 45-56
- Noar, S. M., & Harrington, N. G. (2020). *Health communication: Strategies for developing global health programs*. Routledge.
- Oktarida, S. 2019. Paritas dan Dukungan Suami dengan Pemilihan Alat Kontrasepsi Implan pada Pasangan Usia Subur di Puskesmas Lipat Kajang Tahun 2022. *Jurnal Kesehatan Madani Medika*, 15(1), 106-115.
- Oktavianah, S., Sulistiyaningsih, S., & Juhariyah, A. 2023. Faktor – Faktor yang Berhubungan dengan Pemilihan Alat Kontrasepsi Implan pada Wanita Usia Subur. *Jurnal Penelitian Perawat Profesional*, 5(2), 515-528.
- Rahman, A. (2019). Peran komunikasi petugas lapangan keluarga berencana terhadap peningkatan penggunaan kontrasepsi pada pasangan usia subur. *Jurnal Kesehatan Reproduksi*, 10(2), 85–94. <https://doi.org/10.22435/kespro.v10i2.1234>
- Rahmawati, M., Emha, M. R., & Nurhayati, R. 2024. Kesehatan reproduksi: Efek program keluarga berencana (KB) terhadap kesehatan reproduksi wanita usia subur. *Jurnal Kesehatan Madani Medika*, 15(1), 106–115.
- Safitriani Eva, Hasbiah, Amalia R. 2022. Hubungan Pengetahuan Sikap Ibu dan Dukungan Suami Dengan Pemilihan Alat Kontrasepsi Implan. *Jurnal Ilmiah Universitas Batanghari Jambi*, 22(1), 364-369.
- Smith, J., Taylor, D., & Huang, W. 2020. Access to Contraception: A Global Perspective. *International Journal of Reproductive Health*, 42(3), 210- 218.
- World Health Organization (WHO). 2021. *Family Planning: A Global Handbook for Providers*. World Health Organization.

