

## Application of IUD Contraception Among Childbearing-Age Couples Within the Parigi Community Health Center Work Area

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### Abstract

The use of IUD contraception is one of the most effective methods for controlling births and improving reproductive health. However, its usage among women of reproductive age remains low, influenced by various factors. According to data from the Parigi Moutong Health Department, IUD contraception ranks third lowest among contraceptive methods, with a usage rate of only 3.4%. This study aims to analyze the factors influencing the use of IUD contraception among women of reproductive age in the Parigi Health Center Work Area in 2024. This research employed a quantitative analytical approach with a cross-sectional study design. The population comprised all women of reproductive age (15–49 years) residing in the Parigi Health Center Work Area, with a sample size of 100 respondents. The sampling technique used was proportional stratified random sampling. The analysis included bivariate analysis using Simple Logistic Regression and multivariate analysis using Multiple Logistic Regression. The bivariate analysis identified several variables as candidates for multivariate analysis: knowledge, parity, husband's support, socio-cultural factors, service accessibility, service hours, service costs, staff friendliness, and equipment availability. Multivariate analysis revealed significant factors influencing IUD usage: knowledge ( $p=0.001$ ), parity ( $p=0.032$ ), spousal support ( $p=0.028$ ), socio-cultural factors ( $p=0.002$ ), and service quality, which includes accessibility ( $p=0.025$ ), service time ( $p=0.043$ ), service costs ( $p=0.038$ ), provider friendliness ( $p=0.040$ ), and equipment availability ( $p=0.008$ ). Knowledge, parity, husband's support, sociocultural factors, and service quality significantly affect the use of IUD contraception in the Parigi Health Center Work Area.

**Keywords:** IUD contraception, Childbearing-Aged Couples

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### Introduction

Family planning services play a vital role in accelerating the reduction of maternal mortality rates (MMR) by managing the timing, spacing, and number of pregnancies. This approach helps prevent or mitigate the risk of life-threatening complications for mothers or their fetuses during pregnancy. Family planning services encompass pre-pregnancy, pregnancy, childbirth, and postpartum healthcare, as well as contraceptive services and sexual health care.

Globally, out of 966 million women of reproductive age (15–49 years), 45% utilize short-term contraceptive methods such as condoms, oral pills, injections, and other modern approaches. Female sterilization is the most commonly used contraceptive method worldwide, accounting for 219 million users (22.9% of contraceptive users), followed by condoms with 208 million users (21.8%), intrauterine devices (IUDs) with 161 million users (16.8%), pills with 150 million users (15.7%), injections with 72 million users (7.5%), implants with 25 million users (2.6%), and traditional methods accounting for 10% (Nurullah, 2021).

According to the 2022 Family Data Collection survey conducted by the National Population and Family Planning Board (BKKBN), the contraceptive prevalence rate (CPR) among childbearing-aged couples in Indonesia was 59.9%. In Central Sulawesi, the utilization of active family planning services has shown a decline, with coverage dropping from 68.9% in 2020 to 68.07% in 2021, and further to 63.4% in 2022. Align with research from Anggraini, (2021) this figure remains far below the Regional Medium-Term Development Plan (RPJMD) target of 100%. Among active contraceptive service users in Central Sulawesi, injectable contraception dominates at 45.85%, followed by oral pills at 29%, implants at 11%, IUDs at 10%, female sterilization (MOW) at 2.1%, condoms at 0.8%, and male sterilization (MOP) at 0.2.

The 2023 Health Profile of Parigi Moutong Regency indicates that the most widely used contraceptive methods are injectable contraceptives (50.4%), followed by oral pills (31.3%), implants (9.3%), female sterilization (MOW) (3.9%), intrauterine devices (IUDs) (3.4%), condoms (0.4%), and the least used method, male sterilization (MOP), at 0.2% (Parigi Moutong Health Department, 2023). Globally, contraceptive usage among women of reproductive age is influenced by various cultural and socio-economic factors. Decisions to use contraception are shaped by perceived likelihood and desirability of pregnancy, relationship status, and individual knowledge, beliefs, and perceptions about potential side effects and health risks. Male partners exert significant influence, as do the perspectives and experiences of peers and family expectations.

Limited education and poverty correlate with lower contraceptive use, while social and cultural norms also impact contraceptive choices and expectations around family size and timing. The availability, accessibility, confidentiality, and cost of healthcare services, along with the attitudes, behaviors, and skills of healthcare practitioners, also play a critical role in contraceptive adoption. In the Parigi Health Center Work Area, the use of IUD contraception among childbearing-aged couples remains relatively low. Instead, injectable contraceptives and oral pills are preferred due to their practicality and ease of use. The low interest in IUDs is partly due to difficulties faced by childbearing-aged couples in selecting suitable contraceptive methods, driven by limited knowledge about long-term contraceptive methods such as IUDs.

Many couples lack awareness about the prerequisites and safety of this contraceptive option, which contributes to its underutilization. Additional factors include attitudes, income levels, sources of information, and spousal support. In general, knowledge and exposure to reliable information sources significantly influence an individual's perception and decision-making regarding contraceptive methods. Based on the background outlined above, this study aims to explore the factors influencing the application of IUD contraceptive among childbearing-aged couples in the Parigi Health Center Work Area in 2024.

## **Method**

This study employed an analytical quantitative approach using a cross-sectional study design. The research was conducted in the Parigi Health Center Work Area in September 2024. The independent variables in this study included knowledge, parity, spousal support, socio-cultural factors, and the quality of healthcare services (measured by distance, time, cost, provider friendliness, and availability of equipment). The dependent variable was the utilization of intrauterine device (IUD) contraceptives. The population comprised all childbearing-aged couples (19–49 years) residing in the Parigi Health Center Work Area, totaling 6,234 couples. A sample size of 100 respondents was selected using the proportional stratified random sampling technique. Data collection was conducted using a structured questionnaire. The analysis involved univariate, bivariate, and multivariate methods. Bivariate analysis was performed using simple logistic regression, while multivariate analysis employed multiple logistic regression tests with a confidence level of 95% and a significance level ( $\alpha$ ) of 0.05.

## Result

### *Respondent Characteristics*

Table 1. Respondent Characteristics

<b>Characteristics</b>	<b>n</b>	<b>%</b>
<b>Age</b>		
15-19 years	2	2
20-24 years	13	13
25-29 years	16	16
30-34 years	25	25
35-39 years	25	25
40-44 years	14	14
45-49 years	5	5
Total	100	100
<b>Residence</b>		
Desa Olaya	10	10
Desa Ranomaisi	4	4
Desa Lebo	3	3
Desa Pombalowo	4	4
Desa Mertasari	4	4
Kelurahan Maesa	10	10
Kelurahan Loji	6	6
Kelurahan Masigi	14	14
Kelurahan Bantaya	20	20
Kelurahan Kampal	17	17
Desa Bambalemo	8	8
Total	100	100
<b>Education</b>		
Primary School	9	9
Junior High School	29	29
Senior High School	53	53
Diploma 1 (D1)	1	1
Diploma 3 (D3)	2	2
Bachelor's Degree (S1)	6	6

Total	100	100
<b>Occupation</b>		
Kindergarten Teacher	1	1
Contract Worker	6	6
Private Employee	1	1
Civil Servant	2	2
Entrepreneur	1	1
Homemaker (URT)	89	89
Total	100	100

Source: Primary Data, 2024

Table 1 indicates that among 100 respondents of childbearing-aged couples, the highest age groups were 30–34 years and 35–39 years, each consisting of 25 individuals (25%). The lowest age group was 15–19 years, comprising only 2 individuals (2%). Regarding residential characteristics, Table 1 shows that among 100 respondents, the most common residence of childbearing-aged couples was Kelurahan Bantaya, with 20 individuals (20%). Conversely, Desa Lebo was the least populated, with only 3 individuals (3%).

In terms of educational attainment, Table 1 reveals that the majority of respondents had completed senior high school or vocational school (SMA/SMK), totaling 53 individuals (53%). The lowest educational level was Diploma 1 (D1), with only 1 individual (1%). Regarding occupation, the table shows that the majority of respondents were homemakers (URT), accounting for 89 individuals (89%). The least common occupations were kindergarten teacher, private employee, and entrepreneur, with 1 individual (1%) in each category.

### Univariate Analysis

Table 2. Distribution of Respondents by Study Variables

Variable	n	%
<b>Knowledge</b>		
Poor	46	46
Good	54	54
<b>Parity</b>		
>2 children	47	47
≤2children	53	53
<b>Spousal Support</b>		
Less Supportive	47	47
Supportive	53	53
<b>Socio-cultural Factors</b>		
Negative	39	39
Positive	61	61
<b>Service Quality</b>		
<b>Service Distance</b>		
Far	36	36
Near	64	64
<b>Service Time</b>		
Slow	39	39
Fast	61	61

<b>Service Cost</b>		
Expensive	38	38
Affordable	62	62
<b>Provider Friendliness</b>		
Unfriendly	7	7
Friendly	93	93
<b>Equipment Availability</b>	<b>n</b>	<b>%</b>
Not available	2	2
Available	98	98
<b>Contraceptive Method</b>	<b>n</b>	<b>%</b>
Non IUD	58	58
IUD	42	42

Source: Primary Data, 2024

Based on Table 2, the data illustrates the distribution of respondents across key variables related to knowledge, parity, spousal support, sociocultural attitudes, service quality, and contraceptive use. Out of 100 respondents, 46 childbearing-aged couples (CACs) were identified as having inadequate knowledge about contraceptive methods (46%), while 54 respondents (54%) demonstrated adequate knowledge. Regarding parity, 47 respondents (47%) had a parity of more than two children, whereas 53 respondents (53%) had a parity of two children or fewer. Spousal support was another critical variable, with 47 respondents (47%) reporting insufficient support from their husbands, compared to 53 respondents (53%) who indicated adequate support.

On the sociocultural variable, 39 respondents (39%) reported experiencing negative sociocultural attitudes that may influence their decisions regarding contraceptive use, while 61 respondents (61%) reported positive sociocultural attitudes. The quality of healthcare services was assessed through several indicators. In terms of distance, 36 respondents (36%) lived far from healthcare facilities, which could pose a barrier to accessing services, while 64 respondents (64%) lived closer to these facilities. For service time, 39 respondents (39%) experienced slow service delivery, while 61 respondents (61%) received quicker service. Service costs were perceived as expensive by 38 respondents (38%), while 62 respondents (62%) found the costs affordable.

The attitude of healthcare providers also played a significant role, with only 7 respondents (7%) reporting encounters with unfriendly staff, while the majority, 93 respondents (93%), encountered friendly and supportive healthcare personnel. Additionally, the availability of contraceptive devices was another important factor, as only 2 respondents (2%) reported a lack of available devices, while 98 respondents (98%) indicated that contraceptive tools, such as IUDs, were readily accessible. Finally, the table highlights the usage patterns of contraceptive methods. Of the 100 respondents, 58 individuals (58%) opted for non-IUD contraceptive methods, while 42 individuals (42%) utilized IUDs as their preferred method of contraception. This distribution underscores the various factors influencing the decision-making processes of CACs in choosing their contraceptive methods.

### ***Bivariate Analysis***

Bivariate analysis in logistic regression is conducted to select variables eligible for multivariate analysis based on a p-value threshold of < 0.25.

Table 3. Results of Bivariate Selection

Variable	P Value	Multivariate Candidate
Knowledge	0.000	Yes
Parity	0.001	Yes
Spousal Support	0.000	Yes
Socio-Cultural	0.000	Yes
Distance to Service	0.009	Yes
Service Time	0.007	Yes
Service Cost	0.001	Yes
Provider Friendliness	0.002	Yes
Equipment Availability	0.008	Yes

Source: Primary Data, 2024

Table 3 indicates that all independent variables qualify as candidates for multivariate analysis, including knowledge, parity, spousal support, socio-cultural factors, distance to service, service time, service cost, provider friendliness, and equipment availability.

**Multivariate Analysis**

Table 4. Results of Omnibus Test

	Chi-Square	Df	P Value
Step	76.333	8	0.000
Block	76.333	8	0.000
Model	76.333	8	0.000

Source: Primary Data, 2024

Table 4 demonstrates that the omnibus test results show a p-value of 0.000 (< 0.05). This indicates that the independent variables collectively influence the dependent variable.

Table 5. Results of Hosmer and Lemeshow Test

Chi-Square	Df	P Value
6.866	8	0.551

Source: Primary Data, 2024

Table 5 indicates that the Hosmer and Lemeshow test yields a p-value of 0.551, which is greater than 0.05. This suggests no significant difference between the predicted model and observed outcomes. Therefore, the model fits the data well and is deemed reliable for further analysis, effectively describing the relationship between the independent and dependent variables.

Table 6. Results of Partial Test

Variable	B	Df	P Value	Exp (B)
Knowledge	3.186	1	0.001	24,192
Parity	1.497	1	0.032	4,467
Spousal Support	1.635	1	0.028	5,131
Socio-Cultural	2.455	1	0.002	11,649
Distance to Service	1.608	1	0.025	5,284
Service Time	1.954	1	0.043	2,597
Service Cost	1.137	1	0.038	4,047

Provider Friendliness	1.224	1	0.040	2,774
Equipment Availability	1.824	1	0.018	6,195

Source: Primary Data, 2024

Table 6 reveals that the variables of knowledge, parity, spousal support, socio-cultural factors, distance to service, service time, service cost, provider friendliness, and equipment availability have p-values of less than 0.05. This indicates that these variables significantly influence the use of IUD contraceptive methods among childbearing-aged couples in the working area of Parigi Public Health Center.

## Discussion

### *The Influence of Knowledge on the Application of IUD Contraceptives among Childbearing-Aged Couples within the Parigi Community Health Center Work Area*

Based on the analysis, it was found that knowledge significantly influences the use of IUD contraceptives in the working area of Parigi Public Health Center. This conclusion is supported by data showing that 43 childbearing-aged couples who did not use IUD contraceptives had limited knowledge about this contraceptive method. Childbearing-aged couples who lack awareness or hold negative perceptions of IUDs are often associated with low utilization of this contraceptive method. The researcher assumes that the respondents' lack of knowledge includes the unawareness that IUDs are safe for women with high blood pressure and do not affect breast milk production.

This study aligns with research conducted by Irasanti, (2022) which demonstrated that knowledge is correlated with the use of IUD contraceptives, showing a p-value of 0.01. Similarly, research by Padlilah, (2021) concluded that there is a relationship between knowledge about IUD family planning and participation in IUD family planning at PMB Ni G.P. Sutreptininghati, A.Md., Keb, with a p-value of 0.000.

In general, childbearing-aged couples often have perceptions that are misaligned with the factual side effects of IUD, which are generally rare or temporary. Insufficient knowledge further limits their ability to seek additional information from healthcare professionals. Couples who do not know where to seek advice or what specific information they need about IUDs typically refrain from further consultation. However, consultations with medical professionals could help them fully understand the potential risks and benefits of IUDs and receive tailored recommendations to meet their contraceptive needs (Yulihah et al., 2023).

### *The Influence of Parity on the Application of IUD Contraceptives among Childbearing-Aged Couples within the Parigi Community Health Center Work Area*

Parity can influence contraceptive choices. For example, couples with higher parity (having more than two children) are often inclined to choose different contraceptive methods compared to couples with lower parity (one or two children). This factor is crucial in selecting appropriate contraceptive methods and monitoring the reproductive health of childbearing-aged couple (Kambuno & Wijayanti, 2022). The findings of this study revealed that parity significantly affects the use of IUD contraceptives in the working area of Parigi Public Health Center. This conclusion is further supported by observational data, which showed that 36 childbearing-aged couples with more than two children opted not to use IUD contraceptives. Several factors contributed to this decision, including perceptions regarding contraceptive needs, concerns about side effects, environmental influences, and insufficient information on the flexibility and

efficacy of IUDs. According to Sembiring, (2022) comprehensive contraceptive education and in-depth counseling are essential to help couples with higher parity understand that IUDs are a safe, effective, and flexible contraceptive option, even if they are still considering the possibility of having more children in the future. This study aligns with research conducted by Ani Jumiati et al. (2023), which found that parity is significantly associated with the use of IUD contraceptives at Pematang Panggang III Public Health Center. Their findings indicate that higher parity is correlated with increased IUD use, whereas lower parity is associated with reduced IUD use (Sandari & Sulistyoningtyas, 2024). However, this conclusion contrasts with the research by Sanchez, (2021) which suggested that having more children does not necessarily lead to correct contraceptive selection. Numerous factors influence respondents' decisions in choosing a contraceptive method that aligns with their needs.

### ***The Influence of Spousal Support on the Application of IUD Contraceptives among Childbearing-Aged Couples within the Parigi Community Health Center Work Area***

The husband's support and involvement in selecting a contraceptive method that aligns with the needs and conditions of their wife are vital to ensuring the process proceeds effectively. A husband who provides full support can bolster the wife's confidence and assurance when deciding to use a particular contraceptive method (Yulihah et al., 2023). The findings of this study indicate that husband's support significantly influences the use of IUD contraceptives among childbearing-aged couples in the working area of Parigi Public Health Center. Observational data revealed that 38 childbearing-aged couples who did not use IUD contraceptives reported a lack of support from their husbands.

Spousal support and approval play a crucial role in determining the choice of contraceptive methods among childbearing-aged couples, particularly in the decision-making process regarding the use or non-use of IUD contraceptives (10). This study is consistent with research conducted by Arbaiyah, (2021) which concluded that the husband's support is significantly associated with the use of IUD contraceptives in Balaka Village. According to the researchers, the high level of husband's support for IUD use is attributed to the numerous advantages of IUDs compared to other contraceptive methods. Notably, the long-term effectiveness of IUDs in preventing pregnancy is one of their primary benefits.

In many cases, the low adoption rate of IUDs among childbearing-aged couples is closely linked to limited understanding and inadequate spousal support for this contraceptive method. When couples lack a clear understanding of the benefits and safety of IUDs, or when they harbor unfounded concerns about potential side effects, they are less likely to support its use. This, in turn, negatively impacts the couple's decision-making process regarding contraceptive choice.

### ***The Influence of Socio-Cultural Factors on the Application of IUD Contraceptives among Childbearing-Aged Couples within the Parigi Community Health Center Work Area***

Socio-cultural factors not only shape individual and couple choices regarding contraceptive methods but also influence broader perspectives on birth control and gender roles in reproductive health. Local traditions often emphasize childbearing as a symbol of family prestige and dignity, which can result in the avoidance of long-term contraceptive methods (Hsb, 2024). Additionally, religious beliefs sometimes view contraceptive methods with skepticism, considering them contrary to doctrine. Limited education makes it difficult to shift the perception that regulating childbirth is a taboo subject. Low socio-economic status also contributes to a lack of understanding regarding the benefits of birth control. These cultural

factors frequently affect couples' decisions about using contraceptives (Harefa & Ndruru, 2022).

The findings of this study indicate that socio-cultural factors significantly influence the use of IUD contraceptives among childbearing-aged couples in the working area of Parigi Public Health Center. Observational data revealed that out of 100 respondents, 37 couples who exhibited negative socio-cultural attitudes did not use IUD contraceptives. This is supported by research conducted by Adethia, (2024), which demonstrated that socio-cultural factors affect mothers' interest in using long-term contraceptive methods. The study noted that the use of long-term contraceptives is closely related to cultural norms, particularly concerning the methods of insertion and traditional habits regarding contraceptive use.

Socio-cultural factors influence contraceptive use because individuals adopting contraceptive methods live within a specific socio-cultural environment. The methods of contraceptive insertion are often associated with cultural and traditional norms, which have historically shaped the societal framework for sustaining individual and group continuity. To achieve the success of development programs, particularly in such communities, it is essential to understand the prevailing cultural norms and practices. The influence of societal culture on contraceptive adoption is highly complex and diverse, presenting significant challenges in efforts to enhance access and acceptance of pregnancy prevention methods (Purnasari & Ardayani, 2023).

### ***The Influence of Service Quality on the Application of IUD Contraceptives among Childbearing-Aged Couples within the Parigi Community Health Center Work Area***

In this study, service quality was measured based on five indicators: service accessibility, service time, service costs, staff friendliness, and the availability of contraceptive devices. The analysis revealed that all five indicators significantly influence the use of IUD contraceptives among childbearing-aged couples in the working area of Parigi Public Health Center.

The distance to healthcare facilities plays a critical role in determining access to contraceptive services. The further individuals or families must travel to reach health facilities, the higher the likelihood of encountering challenges in obtaining the necessary healthcare services. According to Syafitri, (2021) long distances may result in higher transportation costs, wasted time, and discomfort or uncertainty during the journey to health service locations. This finding aligns with research by Naputupulu, (2022) which identified a correlation between the distance to healthcare services and the utilization of family planning service.

The duration of the IUD insertion process, which includes consultations, examinations, and post-insertion monitoring, is another factor that affects the low adoption rates of this contraceptive method. Although the actual insertion procedure takes only about 5 to 15 minutes, some childbearing-aged couples perceive it as time-consuming due to the need for multiple visits to healthcare facilities and potential long waiting times.

Service costs also significantly impact the decision of childbearing-aged couples to use IUD contraceptives. These costs typically include initial consultation fees, insertion costs, periodic check-ups, and potential replacement or removal expenses if necessary (Sari et al., 2022). Couples who benefit from government health programs or insurance that covers contraceptive services often face lower or even no service costs. However, for middle-to-lower-income families, essential needs such as food, clothing, and children's education often take precedence, leaving limited funds for contraceptive methods (Hasibuan, 2022). In contrast, couples with higher incomes generally have greater flexibility in accessing healthcare facilities that offer a

range of contraceptive services, including IUDs, and can more easily afford additional services such as consultations and regular check-ups (Sahrah, 2024).

The attitudes of healthcare providers play a crucial role in encouraging the acceptance of contraceptive methods. Supportive healthcare providers can help eliminate the stigma or embarrassment clients might feel when seeking information or services related to contraception. A positive attitude allows clients to feel respected, which in turn enhances their motivation to follow the advice of healthcare providers and adopt the recommended contraceptive methods. In this context, the attitudes of healthcare providers not only influence clients' perceptions of health services but also their beliefs regarding the importance of family planning (Tarigan et al., 2022).

The availability of contraceptive devices and medications is a fundamental aspect that family planning service centers must possess to provide the specific methods required. The success of family planning services is determined by various factors, including infrastructure that meets established service standards. To deliver family planning services in line with the chosen contraceptive method, adequate equipment and supplies are essential for family planning service facilities (Susana et al., 2023).

The availability of contraceptive services is reflected in whether healthcare facilities (contraceptive service centers) are equipped with the necessary resources. Thus, the availability of contraceptive devices at healthcare facilities is a critical indicator for evaluating the quality of family planning services in a region (Herinawati et al., 2021). However, limited or uneven access to IUDs can decrease interest and usage rates. Couples may resort to less effective long-term contraceptive methods if IUD access is restricted. Disparities in the distribution of devices, such as the low availability of IUDs in rural or remote areas, can exacerbate inequities in access to reproductive healthcare services (Natalia, 2020).

## Conclusion

The study concludes that knowledge, parity, spousal support, sociocultural factors, and service quality including service accessibility, service time, service costs, staff friendliness, and the availability of devices significantly influence the use of IUD contraceptives among childbearing-aged couples in the working area of Parigi Public Health Center.

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