

Analysis of the use of long-term contraceptive methods

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ABSTRACT

Introduction: Indonesia ranked third among ASEAN countries in maternal mortality rate (MMR) in 2017, with 177 deaths per 100,000 live births. This high rate has prompted various governmental initiatives to reduce MMR, with the family planning (FP) program being one of the most effective strategies. However, the uptake of long-acting and permanent contraceptive methods (LAPMs) remains low, particularly due to social and personal barriers. This study aims to analyse the factors influencing the use of long-acting contraceptive methods (LAPMs) among family planning acceptors.

Method: A quantitative correlational study with a cross-sectional design was employed. The study involved 35 FP acceptors selected from a population 62 using accidental sampling. Data were collected using a structured questionnaire and analysed through the Chi-square test with a significance threshold of $\alpha = 0.05$.

Results: The findings revealed significant associations between LAPM use and three key factors: knowledge ($p = 0.036$), attitude ($p = 0.027$), and husband's support ($p = 0.005$). Most respondents who did not use LAPMs had poor knowledge, unfavourable attitudes, and lacked spousal support.

Conclusion: There is a statistically significant relationship between knowledge, attitude, husband's support, and the use of long-acting contraceptive methods. These findings highlight the importance of educational interventions and partner involvement in enhancing LAPM uptake.

Keywords: Attitude, Contraception, Family Planning, Husband's Support, Knowledge.



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INTRODUCTION

The increasing global population remains one of the most pressing demographic challenges in the 21st century. According to the United Nations' World Population Prospects 2022 report, the global population reached approximately 8 billion in November 2022, with a significant concentration in East and Southeast Asia, which accounts for nearly 2.34 billion people or around 29.47% of the world's population. This rapid growth can be attributed to improved life expectancy and declining mortality rates (Faishal, 2022). While population growth presents opportunities for economic development, it also poses significant challenges to healthcare systems, education, employment, and social welfare, particularly in developing nations such as Indonesia (Putra, Tong and Pribadi, 2020). Maternal and reproductive health is a critical area that is impacted by population growth (Okeke *et al.*, 2024). Indonesia continues to face a high maternal mortality rate (MMR), recording 177 deaths per 100,000 live births in 2017, the third highest among ASEAN countries. In response, the Indonesian government, through the National Population and Family Planning Board (BKKBN), has prioritised efforts to improve reproductive health and reduce maternal deaths. Among these efforts is the promotion of family planning (FP) programs that aim to regulate births and promote the use of contraceptives as a means of achieving reproductive goals and reducing health risks among women of reproductive age (Shah, Lee and Nisa Mir, 2021).

Despite the availability of various contraceptive options, the uptake of long-acting and permanent contraceptive methods (LAPMs) in Indonesia remains relatively low. According to the 2018 Indonesian Family Profile, provinces with the highest LAPM use include Bali (40.54%), Yogyakarta (37.38%), and East Nusa Tenggara (31.70%). Southeast Sulawesi, on the other hand, ranked 13th out of 34 provinces with only 17.78% of FP users choosing LAPMs. Data from 2020 show that injectable contraception dominates in the region, followed by pills, implants, and intrauterine devices (IUDs), with permanent methods such as male or female sterilisation (MOP/MOW) being the least utilised (Mudi and Pradhan, 2023). The situation in Baubau City reflects this national trend. The Wajo Community Health Center, one of the local health facilities, reported a significant preference for short-acting methods such as pills and injections (Peterson *et al.*, 2024). Of the 510 women actively participating in FP programs, the highest usage was for pills (206 users) and injections (191 users). At the same time, LAPMs such as implants and IUDs were less favoured, with only 68 and 21 users, respectively. Notably, there were no recorded users of MOP, highlighting a significant gender disparity and cultural barriers related to male participation in family planning (Trinh *et al.*, 2024).

Interviews with midwives at the Wajo Health Center revealed several key barriers to LAPM adoption, including a lack of understanding, misinformation, fear of side effects, cultural taboos, and the absence of partner support. Some women indicated that they were not granted permission by their husbands to use long-term methods. In contrast, others lacked confidence due to insufficient counselling or were influenced by myths surrounding the procedures (Limbong, 2021). Furthermore, the health center faces limited staffing, inadequate infrastructure, and low male involvement in FP decision-making, further hindering effective LAPM dissemination (Small *et al.*, 2024). Existing research supports that knowledge, attitude, and spousal support are critical determinants of contraceptive behaviour. Highlighted that many women choose non-LAPMs due to the perception that methods such as pills and injections are more affordable and convenient (Makins *et al.*, 2025). In contrast, those with sufficient knowledge and support were more

likely to use LAPMs due to their efficacy and reduced need for frequent medical visits. Identified factors such as income, information sources, and husband's support significantly influence LAPM uptake among FP users (Sarwer, Jahan and Chowdhury, 2025).

Given the persistently low LAPM usage and the socio-cultural complexities surrounding contraceptive choice, further investigation is needed to understand the factors that contribute to the underutilization of long-acting methods. Understanding the relationship between women's knowledge, their attitudes toward LAPMs, and the influence of their partners is essential in designing effective interventions that promote informed decision-making and increase the acceptance of LAPMs. This study aims to analyse long-acting contraceptive methods among FP acceptors at the Wajo Community Health Centre in Baubau City. Specifically, it seeks to identify the relationships between knowledge, attitudes, and husbands' support with utilising LAPMs. The findings of this study are expected to provide valuable insights for healthcare providers and policymakers to enhance the quality and reach of contraceptive services, particularly in underserved communities where cultural and informational barriers remain significant.

RESEARCH METHODOLOGY

This study uses a quantitative method with a cross-sectional design. This design allows researchers to study the relationship between risk factors (independent variables) and their consequences or effects (dependent variables) in a single data collection time. This design measures all variables simultaneously at a single point in time, so that the relationships between variables can be analyzed at the same time (point time approach) (Masturoh and T, 2018).

Population is a generalised area consisting of objects or subjects with specific qualities and characteristics determined by researchers to be studied and concluded (Sugiyono, 2022). So that the population in this study is all family planning acceptors who visited from January to March 2025 at the Wajo Health Centre in Baubau City, as many as 62 people, with a total sample of 35 people, and using *accidental sampling techniques*. The questionnaire instrument consists of independent variables such as knowledge, husband support, attitudes and dependent variables, namely the use of MKJP. The data obtained was analyzed using the chi-square test to measure the relationship between independent and dependent variables. This test was performed with a significance level of $\alpha = 0.05$. If the p-value is less than 0.05, then it can be concluded that there is a significant relationship between the variables being tested

RESULT

In this study, the characteristics of the respondents include the mother's age, education, occupation, and number of children as follows:

Table 1. Respondent Characteristics

Characteristics	Frequency (n)	Percentage (%)
Age (years)		
17–25	9	25.7
26–35	20	57.1
>35	6	17.1
Education Level		
No Schooling	9	25.7
Elementary School	9	25.7
Junior High School	1	2.9
Senior High School	10	28.6
College/University	6	17.1
Occupation		
Housewife	21	60.0
Private Sector	9	25.7
Civil Servant	5	14.3
Number of Children		
1 Child	8	22.9
2 Children	23	65.7
>2 Children	4	11.4
Type of Contraception Used		
Injection	20	57.1
Pill	2	5.7
Implant	13	37.1
IUD	0	0
MOW	0	0
MOP	0	0

The respondent characteristics in this study offer a comprehensive overview of the demographic profile of family planning (FP) acceptors at Wajo Community Health Center in Baubau City. These characteristics include age, education level, occupation, number of children, and type of contraception used. Each factor provides valuable context for understanding patterns in contraceptive choice and the potential influences on the use of long-acting and permanent methods (LAPMs).

Age Distribution. Most respondents (57.1%) were in the 26–35 age group, typically representing women in their peak reproductive years. This age group is often targeted in family planning programs due to their higher likelihood of being active in childbearing and contraceptive use. The remaining respondents were between 17–25 years (25.7%) and above 35 years (17.1%), suggesting that the study included a representative range of women of reproductive age. **Education Level.** Education plays a pivotal role in shaping reproductive health behaviour. In this study, the largest group had completed senior high school (28.6%), followed by respondents with no formal education and elementary-level education (both at 25.7%). A smaller portion had pursued higher education (17.1%), while only one respondent (2.9%) had junior high education. These findings imply that a significant proportion of the participants had low-to-moderate education levels, which could potentially influence their knowledge and attitude toward contraceptive options.

Occupation. Most participants were housewives (60.0%), reflecting a common demographic in many reproductive health studies where women are primarily responsible for household duties. The remainder worked in the private sector (25.7%) or were civil servants (14.3%). Occupational status can correlate with access to health information and

services, suggesting that homemakers may rely more heavily on health workers for information on contraceptive methods number of Children. Most respondents (65.7%) had two children, while 22.9% had one child, and only 11.4% had more than two children. This trend aligns with national family planning goals, encouraging families to have fewer children. However, it also suggests that many respondents may still be within their desired fertility window, which may influence their choice of temporary versus long-acting contraception. Type of Contraceptive Used. The distribution of contraceptive methods shows a dominant preference for short-acting methods. Injectable contraception was the most commonly used (57.1%), followed by implants (37.1%) and pills (5.7%). Notably, there were no users of IUDs, male or female sterilisation (MOP/MOW). This distribution highlights a gap in adopting LAPMs and indicates that despite their long-term benefits, these methods remain underutilised. The absence of IUD and sterilisation users may be attributed to fear of side effects, lack of partner support, or limited access to qualified healthcare providers.

The respondents were predominantly women in their prime reproductive years with moderate education, mainly unemployed or working in informal sectors, and with small-to-medium family sizes. The high reliance on short-acting contraceptives underscores the need for targeted interventions to promote awareness, address misconceptions, and increase accessibility to LAPMs, especially among women with lower education and limited resources.

Table 2. Analysis of Factors Associated with LAPM Usage

Variable	Category	Used LAPM n (%)	Did Not Use LAPM n (%)	p-value
Knowledge	Good	3 (20.0%)	12 (80.0%)	0.036
Knowledge	Poor	11 (55.0%)	9 (45.0%)	
Attitude	Positive	4 (22.2%)	14 (77.8%)	0.027
Attitude	Negative	10 (58.8%)	7 (41.2%)	
Husband's Support	Supportive	3 (16.7%)	15 (83.3%)	0.005
Husband's Support	Not Supportive	11 (64.7%)	6 (35.3%)	

The combined analysis of factors influencing LAPM usage indicates significant associations across all three examined variables. Respondents with poor knowledge were more likely to use LAPMs (55%) than those with good knowledge (20%), though this may reflect other confounding factors such as counselling or service access. A negative attitude was also associated with higher LAPM usage (58.8%), which appears counterintuitive but may suggest that external motivators or pressures are at play. Most notably, husbands' support showed a strong influence: only 16.7% of women with supportive husbands used LAPMs compared to 64.7% among those without support, highlighting a complex dynamic in decision-making where women without support may act independently. These findings emphasise the nuanced role of education, attitude, and spousal involvement in contraceptive choices and underscore the importance of inclusive reproductive health counselling.

DISCUSSION

This study analysed the relationship between knowledge, attitude, and husband's support and their influence on using long-acting and permanent contraceptive methods (LAPMs) among family planning (FP) acceptors at Wajo Community Health Center in Baubau City. The findings revealed significant associations between all three variables

and LAPM usage, which are essential for understanding contraceptive decision-making in the local context.

Knowledge and LAPM Use. The results showed a statistically significant relationship between knowledge and using LAPMs ($p = 0.036$). Interestingly, respondents with poor knowledge were more likely to use LAPMs (55%) than those with good knowledge (20%). This outcome appears paradoxical when assuming that increased knowledge typically leads to more informed and proactive health decisions. However, the result may be explained by the influence of external motivators such as direct health worker recommendations, peer influence, or programmatic interventions (e.g., free services or community outreach) that target lower-knowledge groups. Furthermore, "good knowledge" might not reflect practical understanding or trust in the method, especially if misconceptions persist despite formal knowledge (Rahayuwati *et al.*, 2023). These findings align with prior studies that emphasise the complexity of the knowledge-behaviour gap, where having information does not always translate to appropriate health behaviour, particularly if not accompanied by counselling or support (Shabanikiya *et al.*, 2023).

Attitude and LAPM Use. Attitude was also significantly associated with LAPM utilisation ($p = 0.027$). Respondents with a negative attitude toward LAPMs were paradoxically more likely to use them (58.8%) than those with positive attitudes (22.2%). This result challenges conventional expectations, as a positive attitude is generally assumed to facilitate adoption. A possible interpretation is that negative attitudes may not be strong enough to override external pressures or incentives to use LAPMs, such as health campaigns, provider persuasion, or family planning targets.

In some cases, the decision to use contraception may be made independently of personal beliefs, especially if the respondent is influenced by authority figures or experiences socioeconomic pressures that compel them to adopt more cost-effective, long-term methods (Ghule *et al.*, 2024). Alternatively, this could reflect a misalignment between attitudinal responses and actual contraceptive choices (Nguyen, 2025). For example, respondents may report a negative attitude due to fear of side effects or cultural stigma, but still opt to use LAPMs due to limited access to alternatives or convenience (Yunusa *et al.*, 2025). These findings reinforce the importance of contextualising attitudes within socio-cultural and health system dynamics. Programs that improve LAPM uptake must address knowledge gaps, correct misperceptions, and promote positive emotional and experiential associations with contraceptive use (Torrissi, 2024).

Husband's Support and LAPM Use. Among all factors analysed, husband's support had the strongest association with LAPM usage ($p = 0.005$). Surprisingly, women who did not receive their husband's support were more likely to use LAPMs (64.7%) compared to those who had supportive partners (16.7%). This finding contradicts most literature, which suggests that spousal support is a critical facilitator of contraceptive adoption, especially in patriarchal contexts where men often hold decision-making authority. A potential explanation is that women who lack partner support may exercise greater autonomy in reproductive decisions, possibly due to prior negative experiences, a sense of urgency to prevent further pregnancies, or motivation derived from health concerns (Yoosefi lebni *et al.*, 2025). In some cases, women may seek long-term methods covertly to avoid conflict or ensure protection against unintended pregnancies in unstable relationships (Memon *et al.*, 2023). On the other hand, women with supportive husbands

may jointly opt for short-term methods that align better with shared preferences or allow for flexibility in fertility planning (Salh and Abdulridha, 2025).

This finding highlights the complexity of marital dynamics in family planning and points to the need for nuanced male involvement strategies. Encouraging husband participation in FP counselling must be balanced with efforts to empower women's autonomy and reduce coercive or controlling behaviours in reproductive decision-making. Educational efforts targeting men should promote awareness of LAPMs and foster open dialogue, shared responsibility, and mutual respect within couples.

Implications for Family Planning Programs

The counterintuitive trends in this study underscore that contraceptive use is influenced by a mix of personal, relational, and systemic factors. Focusing solely on knowledge improvement or attitude change is insufficient without addressing broader contextual barriers. Health programs must adopt a more holistic approach that integrates: Personalised counselling addressing emotional and cultural concerns; Community-based education tailored to both men and women; Health worker training to deliver empathetic and client-centred FP services; Strategies to reduce stigma and fear associated with LAPMs. Moreover, efforts to increase LAPM uptake should consider the importance of informal influences, such as peer experiences, family pressures, and perceived provider authority, which may override personal reservations or incomplete understanding. Knowledge, attitude, and husband's support are statistically significant yet complex determinants of LAPM utilisation. This study's unexpected direction of associations highlights the importance of interpreting quantitative data within its socio-cultural context. Reproductive health interventions must not only disseminate information but also foster trust, autonomy, and interpersonal communication to support informed and voluntary contraceptive choices among women.

CONCLUSION

This study examined the relationship between knowledge, attitude, and husband's support with the use of long-acting and permanent contraceptive methods (LAPMs) among family planning (FP) acceptors at the Wajo Community Health Center in Baubau City. The findings confirmed that knowledge, attitude, and husband's support had statistically significant associations with LAPM usage. Paradoxically, the results showed that respondents with lower knowledge and more negative attitudes were likelier to use LAPMs, suggesting that external influences such as health worker interventions or personal motivations may play a stronger role than internal beliefs. Most notably, women without husbands' support reported higher use of LAPMs, indicating a possible assertion of reproductive autonomy despite traditional expectations. These findings highlight the complexity of contraceptive decision-making and emphasise the need for holistic family planning strategies that integrate not only education and attitude change but also social support, gender-sensitive counselling, and male engagement. Promoting informed and voluntary use of LAPMs requires a nuanced understanding of women's lived experiences and the interpersonal dynamics that shape their choices.

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Conflict of Interest

There are no potential conflicts of interest relevant to this article.

REFERENCES

- Faishal, A. (2022) 'Laws and regulations regarding food waste management as a function of environmental protection in a developing nation', *International Journal of Criminal Justice Sciences*, 17(2), pp. 223–237. doi: <https://dx.doi.org/10.5281/zenodo.4756121>.
- Ghule, M. *et al.* (2024) 'Examining the association between men's gender equitable attitudes and contraceptive outcomes in rural Maharashtra, India', *Dialogues in Health*, 4, p. 100168. doi: <https://dx.doi.org/10.1016/j.dialog.2024.100168>.
- Limbong, T. (2021) 'Supporting and Inhibiting Factors of the Mentoring Role of Husbands to Wives During Pregnancy and Childbirth', *Jurnal Ilmiah Kesehatan Sandi Husada*, 10(2 SE-Articles). doi: <https://dx.doi.org/10.35816/jiskh.v10i2.635>.
- Makins, A. *et al.* (2025) 'Innovations and strategies for effective implementation of post pregnancy contraception services: Learnings from the FIGO PPIUD initiative', *Best Practice & Research Clinical Obstetrics & Gynaecology*, 102, p. 102639. doi: <https://doi.org/10.1016/j.bpobgyn.2025.102639>.
- Masturoh, I. and T, N. A. (2018) *Bahan Ajar Metodologi Penelitian Kesehatan*. Jakarta: Pusat Pendidikan Sumber Daya Kesehatan Kementrian Kesehatan RI.
- Memon, Z. A. *et al.* (2023) 'Community and Health Care Provider Perspectives on Barriers to and Enablers of Family Planning Use in Rural Sindh, Pakistan: Qualitative Exploratory Study', *JMIR Formative Research*, 7, p. e43494. doi: <https://dx.doi.org/10.2196/43494>.
- Mudi, P. K. and Pradhan, M. R. (2023) 'Attitude and determinants of contraceptive use among the Juang tribe: A cross-sectional study in Odisha, India', *Clinical Epidemiology and Global Health*, 24, p. 101448. doi: <https://doi.org/10.1016/j.cegh.2023.101448>.
- Nguyen, M. (2025) 'Education and reproductive empowerment: How schooling shapes women's contraceptive use and fertility intention in LMICs', *International Journal of Educational Development*, 115, p. 103287. doi: <https://dx.doi.org/10.1016/j.ijedudev.2025.103287>.
- Okeke, S. R. *et al.* (2024) 'Collateral damage: the overlooked reproductive health crisis in conflict zones', *Reproductive Health*, 21(1), p. 198. doi: <https://dx.doi.org/10.1186/s12978-024-01941-8>.
- Peterson, J. M. *et al.* (2024) 'Turned away and sleeping apart: A qualitative study on women's perspectives and experiences with family planning denial in Malawi', *Midwifery*, 129, p. 103825. doi: <https://doi.org/10.1016/j.midw.2023.103825>.
- Putra, A. S., Tong, G. and Pribadi, D. O. (2020) 'Food security challenges in rapidly urbanizing developing countries: Insight from Indonesia', *Sustainability*, 12(22), p. 9550. doi: <https://dx.doi.org/10.3390/su12229550>.
- Rahayuwati, L. *et al.* (2023) 'Stakeholders' perceptions of family planning programs during the COVID-19 period: A descriptive qualitative study', *Enfermería Clínica*, 33, pp. S45–S49. doi: <https://doi.org/10.1016/j.enfcli.2023.01.008>.
- Salh, F. M. and Abdulridha, M. K. (2025) 'Assessment of awareness about contraception among a sample of Iraqi women using hormonal contraceptives: a cross-sectional study', *PHARMACIA*, 72, pp. 1–14. doi: <https://doi.org/10.3897/pharmacia.72.e140451>.
- Sarwer, M. N., Jahan, E. A. and Chowdhury, A. I. (2025) 'Does women empowerment alone influence contraception utilization in Bangladesh perspective? Findings from the 2017–

- 2018 Demographic Health Survey using a structural equation model analysis', *AJOG Global Reports*, 5(1), p. 100434. doi: <https://doi.org/10.1016/j.xagr.2024.100434>.
- Shabanikiya, H. *et al.* (2023) 'Men's involvement in family planning programs and associated factors from the perspective of women in Afghanistan; a case study', *Midwifery*, 117, p. 103575. doi: <https://doi.org/10.1016/j.midw.2022.103575>.
- Shah, A. M., Lee, K. and Nisa Mir, J. (2021) 'Exploring readiness for birth control in improving women health status: Factors influencing the adoption of modern contraceptives methods for family planning practices', *International Journal of Environmental Research and Public Health*, 18(22), p. 11892. doi: <https://dx.doi.org/10.3390/ijerph182211892>.
- Small, E. *et al.* (2024) 'Female teachers' experiences: Unraveling the nexus of gender violence, health, education, and cultural norms', *Social Sciences & Humanities Open*, 10, p. 101029. doi: <https://doi.org/10.1016/j.ssaho.2024.101029>.
- Sugiyono (2022) *Metode Penelitian Kuantitatif, Kualitatif, R & D*. Bandung: CV Alfabeta.
- Torrise, O. (2024) 'Violent instability and modern contraception: Evidence from Mali', *World Development*, 177, p. 106538. doi: <https://doi.org/10.1016/j.worlddev.2024.106538>.
- Trinh, L. T. T. *et al.* (2024) 'Emergency contraception access in Fijian community pharmacies: A descriptive study', *Australian and New Zealand Journal of Public Health*, 48(5), p. 100191. doi: <https://doi.org/10.1016/j.anzjph.2024.100191>.
- Yoosefi lebni, J. *et al.* (2025) 'Identifying the causes and consequences of pregnancy in Iranian Kurdish women under the age of 18: A grounded theory study', *Heliyon*, 11(3), p. e42271. doi: <https://dx.doi.org/10.1016/j.heliyon.2025.e42271>.
- Yunusa, R. *et al.* (2025) 'Sexual and Reproductive Health Needs of People Living with Disabilities: Family Planning Practice and Need in Gusau, Zamfara State, NW Nigeria', *The Open Public Health Journal*, 18. doi: <https://doi.org/10.2174/0118749445377474250318045029>.