IJH INTERNATIONAL JOURNAL OF HEALTH
Volume 02 Number 01 (May 2026)
e-ISSN: 3164-8835; p-ISSN: 3164-8827

The utilization of injectable contraceptives among family planning acceptors

Dian Setyorini[1], Rifzul Maulina[1]

[1]Bachelor of Midwifery Study Program, Faculty of Health Sciences, ITSK RS. dr. Soepraoen, Malang, Indonesia

Corresponding Author: Dian Setyorini, dianrini486@gmail.com

Check for updates

Abstract:
Injectable contraception is the most widely used modern method in Indonesia, yet little is known about the conditions that sustain its use in rural independent midwifery practices. This study aimed to describe the knowledge, attitudes, husband support, perceived role of health workers, and service accessibility among injectable contraceptive acceptors at an independent midwifery practice in Jember Regency, Indonesia. A descriptive cross-sectional study was conducted among all 35 eligible active injectable acceptors (total sampling) using a validated structured questionnaire (Cronbach's $\alpha \geq 0.70$). Data were analyzed using frequencies, percentages, and 95% confidence intervals (CI). Most respondents were aged 26–30 years (34.3%), had completed senior high school (51.4%), were housewives (57.1%), and had two children (42.9%). Favorable conditions were most frequently reported for service accessibility (82.9%; 95% CI 67.3–91.9), the role of health workers (80.0%; 64.1–90.0), and husband support (74.3%; 57.9–85.8), followed by positive attitude (68.6%) and good knowledge (60.0%). Injectable contraceptive use in this rural setting is underpinned mainly by accessible, trusted midwifery services and spousal support, while gaps in knowledge and attitudes persist. Couple-centered counselling that offers balanced information on all contraceptive methods is recommended.

Keywords:
injectable contraception; family planning; husband support; midwifery; rural health; Indonesia

Article Info:
Submitted: 01-11-2025
Revised: 13-05-2026
Accepted: 14-05-2026
Published: 17-05-2026

https://doi.org/10.53713/ijh.v2i1.551

This work is licensed under the CC BY-SA License.

INTRODUCTION

Family planning is one of the most cost-effective public health interventions available. Enabling women to space and limit births prevents unintended pregnancies, reduces maternal and infant deaths, and improves the education and economic prospects of families (Cleland et al., 2012). Among modern methods, progestin-only injectables have become a major component of the global method mix. They are highly effective when reinjected on time, can be used discreetly, and do not require daily action. However, they also carry well-known side effects such as menstrual irregularities, weight gain, and a delayed return of fertility (Jacobstein & Polis, 2014).

In Indonesia, injectables have long dominated the national contraceptive method mix. Analyses of three rounds of the Indonesia Demographic and Health Survey show that injectables

Volume 02 Number 01 (May 2026)
e-ISSN: 3164-8835; p-ISSN: 3164-8827

remain the most common method among married women, particularly among women aged 30–39 years, those with one or two children, and housewives (Latifah et al., 2024). National program data indicate that approximately 56% of active family planning acceptors use injectables, far more than the proportion using pills, implants, or intrauterine devices (IUDs) (Badan Kependudukan dan Keluarga Berencana Nasional, 2023). This pattern has been shaped in part by the expansion of community midwives, who have made provider-administered methods, such as injectables, easy to obtain close to home (Weaver et al., 2013).

The same pattern is visible at the district level. In Jember Regency, East Java, approximately 60% of active family planning participants use injectables (Dinas Kesehatan Kabupaten Jember, 2023). At the independent midwifery practice (*Praktik Mandiri Bidan*, PMB) of Dian Setyorini in Tembokrejo Village, Gumukmas District, the number of active injectable acceptors rose from 145 in 2023 to 172 in 2024, whereas the use of pills, implants, and IUDs remained relatively stable. Gumukmas is a predominantly agricultural area. In farming communities, health decisions are rarely made by individuals alone; family support strongly shapes health awareness and care-seeking (Kurniyawan et al., 2023), and farming households face psychosocial and economic pressures that influence daily priorities (Maharani et al., 2025). Women in agricultural areas also face specific reproductive health risks, which place midwives and community nurses at the center of maternal and reproductive care (Kurniyawan et al., 2026).

Several theoretical frameworks help to explain why women choose and continue a particular contraceptive method. The Health Belief Model proposes that health behavior depends on perceived susceptibility, perceived benefits, and perceived barriers (Rosenstock, 1974). The Theory of Planned Behavior adds that behavior is driven by intention, which is shaped by attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). Andersen's Behavioral Model of Health Services Use situates these individual factors within a broader system of predisposing, enabling, and need factors, in which service accessibility and social support serve as key enablers (Andersen, 1995). Together, these frameworks suggest that knowledge and attitudes (individual factors), husband support (a social norm and enabler), and the role of health workers and access to services (health system enablers) are relevant dimensions for understanding injectable contraceptive use.

Empirical studies support these dimensions. Male partners strongly influence whether women start, continue, or covertly use contraception (Kriel et al., 2019), and women's decision-making power within the household is linked to family planning outcomes (Prata et al., 2017). Quality of care, including respectful treatment and clear information from providers, is associated with higher use of modern methods (Bruce, 1990; Tumlinson et al., 2015). Conversely, concerns about side effects and misinformation are among the most common reasons for non-use and discontinuation (Hindin et al., 2014; Sedgh & Hussain, 2014). These findings also raise a concern for practice: when one short-acting method dominates, women may not be fully informed about long-acting reversible contraception, which is more effective in typical use (Winner et al., 2012). Patient-centered counseling is therefore essential to ensure that the choice of method is truly informed (Dehlendorf et al., 2014).

Importantly, the high prevalence of injectable contraceptive use should not automatically be interpreted as evidence of informed preference or optimal method choice. Women's decisions may

Volume 02 Number 01 (May 2026)
e-ISSN: 3164-8835; p-ISSN: 3164-8827

reflect a combination of personal preferences, perceived convenience, provider recommendations, family expectations, and the availability of alternative methods. Although injectables offer practical advantages, continued use should be accompanied by periodic assessment of women's satisfaction, experiences of side effects, and changing reproductive intentions. A service that emphasizes only uptake of methods may overlook whether women have received sufficient information to compare available options and make voluntary decisions. Therefore, examining individual, interpersonal, and service-related conditions among current injectable users is important for identifying opportunities to improve the quality and responsiveness of family planning services (Ajzen, 1991; Andersen, 1995; Dehlendorf et al., 2014).

Despite this evidence, most Indonesian studies have been conducted in public health centers or analyzed national survey data. Few have examined the setting of rural independent midwifery practices, where close personal relationships between midwives and community members, local norms, and family decision-making may shape contraceptive behavior in distinctive ways. Understanding the profile of injectable users in this setting can guide midwives in providing balanced, couple-centered counseling. Therefore, this study aimed to describe the knowledge, attitudes, husband support, perceived role of health workers, and service accessibility among injectable contraceptive acceptors at PMB Dian Setyorini, Jember Regency, Indonesia.

METHODS

This study used a descriptive quantitative design with a cross-sectional approach. The study is reported in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines for cross-sectional studies (von Elm et al., 2007). The study was conducted at PMB Dian Setyorini, an independent midwifery practice in Tembokrejo Village, Gumukmas District, Jember Regency, East Java, Indonesia, which serves a predominantly rural, agricultural population. Data were collected in 2025. The study population comprised all active injectable contraceptive acceptors who attended the practice during the data collection period and met the eligibility criteria (n = 35). Because the population was small, total sampling was used, and all eligible acceptors were included. The inclusion criteria were women of reproductive age (15–49 years) who were active users of injectable contraception, lived within the service area of the practice, and agreed to participate. Women who were pregnant, had health or cognitive conditions that prevented them from completing the questionnaire, or declined to participate were excluded.

Data were collected using a structured questionnaire developed by the researchers based on the Health Belief Model, the Theory of Planned Behavior, Andersen's Behavioral Model, and previous studies. The questionnaire consisted of 33 items in six sections: respondent characteristics (age, education, occupation, and number of children; 6 items), knowledge of injectable contraception (10 items), attitude toward injectable contraception (8 items), husband support (5 items), perceived role of health workers (3 items), and access to family planning services (1 item). Knowledge items used a multiple-choice format (correct = 1, incorrect = 0), and total scores were classified as good, moderate, or poor (≥76%, 56–75%, and <56% of the maximum score). Attitude, husband support, role of health workers, and service access were measured on a four-point Likert scale (strongly agree to strongly disagree). Attitude was classified as positive or negative, and

Volume 02 Number 01 (May 2026)
e-ISSN: 3164-8835; p-ISSN: 3164-8827

husband support as supportive or not supportive, based on the mean score of each scale. The role of health workers was classified as good, moderate, or poor, and access to services as easy, moderate, or difficult.

Before data collection, the questionnaire was tested on 30 injectable contraceptive users in a comparable midwifery practice outside the study area. Item validity was assessed using item–total Pearson correlations; all items had $r > 0.30$ ($p < 0.05$) and were retained. Internal consistency was acceptable, with Cronbach's alpha ≥ 0.70 for all multi-item scales (Tavakol & Dennick, 2011). Questionnaires were completed at the practice, mainly during scheduled re-injection visits. The researchers explained the purpose of the study, obtained informed consent, and were available to clarify items without suggesting answers. Each questionnaire was checked for completeness before the respondent left, and no data were missing.

Data were coded and analyzed descriptively. Categorical variables were summarized as frequencies and percentages. For the main study variables, the proportion of respondents in the favorable category was reported with a 95% confidence interval (CI) calculated using the Wilson score method, which is appropriate for small samples. Percentages were rounded to one decimal place and may therefore not total exactly 100%. Because the study was descriptive and did not include non-users, no tests of association were performed. The study followed the principles of the Declaration of Helsinki (World Medical Association, 2013). All participants received verbal and written information and provided written informed consent. Participation was voluntary; respondents could withdraw at any time without affecting the services they received, and all data were anonymized and kept confidential.

RESULTS

A total of 35 respondents were included in the analysis. The results are presented in three parts: respondent characteristics, the distribution of factors related to injectable contraceptive use, and the ranking of favorable conditions supporting contraceptive use.

Table 1. Frequency Distribution of Respondent Characteristics (n = 35)

Characteristics	Category	Frequency (n)	Percentage (%)
Age (years)	20–25	8	22.9
	26–30	12	34.3
	31–35	10	28.6
	>35	5	14.3
Educational level	Elementary/Junior high school	9	25.7
	Senior high school	18	51.4
	Higher education	8	22.9
Occupation	Housewife	20	57.1
	Farmer/Laborer	8	22.9
	Self-employed	4	11.4
	Civil servant/Private employee	3	8.6
Number of children	1 child	10	28.6
	2 children	15	42.9
	≥3 children	10	28.6

Volume 02 Number 01 (May 2026)
e-ISSN: 3164-8835; p-ISSN: 3164-8827

Table 1 shows that respondents were predominantly aged 26–30 years (34.3%), followed by those aged 31–35 years (28.6%). Regarding educational attainment, more than half had completed senior high school (51.4%). Most respondents were housewives (57.1%), while 22.9% worked as farmers or laborers. In terms of parity, the largest proportion had two children (42.9%), whereas 28.6% had three or more children.

Table 2. Distribution of Knowledge, Attitude, Husband's Support, Role of Health Workers, and Access to Family Planning Services (n = 35)

Variables	Categories	Frequency (n)	Percentage (%)
Knowledge level	Good	21	60.0
	Moderate	10	28.6
	Poor	4	11.4
Attitude toward injectable contraception	Positive	24	68.6
	Negative	11	31.4
Husband's support	Supportive	26	74.3
	Not supportive	9	25.7
Role of health workers	Good	28	80.0
	Moderate	6	17.1
	Poor	1	2.9
Access to family planning services	Easily accessible	29	82.9
	Moderately accessible	5	14.3
	Difficult to access	1	2.9

Table 2 presents the distribution of factors related to injectable contraceptive use. Most respondents demonstrated good knowledge (60.0%) and a positive attitude toward injectable contraception (68.6%). Nevertheless, 31.4% reported a negative attitude, with concerns commonly related to potential side effects, particularly weight gain and menstrual irregularities. Despite these concerns, they continued using the method because they perceived its benefits as outweighing the associated disadvantages.

Regarding family support, 74.3% of respondents reported that their husbands were supportive of injectable contraceptive use. Support was expressed through approval of the contraceptive method, encouragement or reminders to attend scheduled reinjection visits, and permission to use contraception. Conversely, 25.7% reported that their husbands were not supportive.

The role of health workers was predominantly rated as good (80.0%). Respondents particularly recognized midwives for providing information about injection schedules, potential side effects, and contraceptive benefits. Similarly, most respondents (82.9%) considered family planning services easily accessible, attributing this to the practice's proximity to their homes and flexible service hours.

Volume 02 Number 01 (May 2026)
e-ISSN: 3164-8835; p-ISSN: 3164-8827

Table 3. Ranking of Favorable Conditions Supporting Injectable Contraceptive Use (n = 35)

Rank	Variable	Favourable category	n (%)	95% CI*
1	Access to family planning services	Easily accessible	29 (82.9)	67.3–91.9
2	Role of health workers	Good	28 (80.0)	64.1–90.0
3	Husband's support	Supportive	26 (74.3)	57.9–85.8
4	Attitude toward injectable contraception	Positive	24 (68.6)	52.0–81.4
5	Knowledge level	Good	21 (60.0)	43.6–74.4

*95% confidence intervals were calculated using the Wilson score method.

Table 3 ranks the five study variables according to the proportion of respondents in each favorable category. Accessibility of family planning services had the highest proportion (82.9%), closely followed by the favorable role of health workers (80.0%). Husband's support (74.3%), positive attitude (68.6%), and good knowledge (60.0%) followed in descending order. However, the confidence intervals overlapped considerably, suggesting that the observed differences in proportions should be interpreted cautiously. This ranking is descriptive and does not establish statistically significant differences or the relative influence of each factor on contraceptive use.

DISCUSSION

This study described the conditions surrounding injectable contraceptive use among women attending a rural independent midwifery practice in Indonesia. The most frequently reported favorable conditions were easy access to services and a good role of health workers, followed by husband support, a positive attitude, and good knowledge. In other words, the strongest features of this setting were related to the health service and the family, rather than to women's individual knowledge. Because the study was descriptive and included only current users, these findings show what characterizes injectable users in this setting; they do not prove that these factors cause women to choose injectables.

The high proportion of women reporting easy access (82.9%) is consistent with Andersen's model, in which accessibility is a key enabling factor for service use (Andersen, 1995). Access is more than physical distance. Levesque et al. (2013) describe access as a combination of approachability, acceptability, availability, affordability, and appropriateness. The practice studied here appears to perform well on several of these dimensions: it is close to residential areas, offers flexible hours, and is run by a midwife known to the community. Injectables fit well with such a service model because they require only a short visit every 1 to 3 months. This fit between a provider-administered method and a nearby, trusted provider may help explain why injectable use continues to grow in rural Indonesia (Weaver et al., 2013).

The role of health workers was the second most favorably rated condition (80.0%). Women valued clear explanations about injection schedules, side effects, and benefits. This reflects core elements of Bruce's (1990) quality-of-care framework, especially information exchange, interpersonal relations, and mechanisms for continuity. Evidence from Kenya shows that women who are treated well by their family planning provider are more likely to use modern methods (Tumlinson et al., 2015). However, a strong and trusted provider can also shape the choice of method in a narrow direction. If counseling focuses mainly on the method that is easiest to deliver,

Volume 02 Number 01 (May 2026)
e-ISSN: 3164-8835; p-ISSN: 3164-8827

women may not receive balanced information about implants, IUDs, or permanent methods. Patient-centered counseling, in which the provider explores the woman's preferences and presents all suitable options, is therefore important even when satisfaction is high (Dehlendorf et al., 2014).

Husband support was reported by almost three-quarters of respondents. This is in line with studies showing that male partners have considerable influence over whether women start and continue contraception (Kriel et al., 2019). In rural and agricultural communities, family members are also important sources of reminders, practical help, and encouragement for health behavior (Kurniyawan et al., 2023). From the perspective of the Theory of Planned Behavior, husband support represents a subjective norm that can strengthen a woman's intention to continue using a method (Ajzen, 1991). At the same time, one in four women in this study did not feel supported by their husbands. These women may be more vulnerable to discontinuation, covert use, or conflict within the household. Research on women's empowerment suggests that strengthening women's decision-making power and encouraging joint decision-making both contribute to better family planning outcomes (Prata et al., 2017). Inviting husbands to counseling sessions, with the woman's consent, may therefore be a practical step for midwives.

More than two-thirds of respondents had a positive attitude toward injectable contraception. Those with negative attitudes mainly mentioned weight gain and menstrual changes, which are known side effects of progestin-only injectables (Jacobstein & Polis, 2014). Concerns about side effects are among the most frequent reasons why women with an unmet need for contraception avoid or stop using modern methods (Sedgh & Hussain, 2014), and misperceptions about side effects are common in many settings (Hindin et al., 2014). Interestingly, women in this study continued to use injectables despite their concerns, suggesting that they weighed the perceived benefits against the perceived barriers, as described by the Health Belief Model (Rosenstock, 1974). Anticipatory counseling, which explains expected side effects before the first injection and offers follow-up when side effects occur, can help women make informed decisions and reduce unplanned discontinuation.

Knowledge was the least favorable of the five variables: 40.0% of respondents had only moderate or poor knowledge. This finding is important because good knowledge underpins informed choice. Women who do not fully understand how injectables work, when to return for re-injection, or how they compare with other methods may be less able to manage side effects or to consider alternatives. The respondent profile adds another dimension. Most women were in their late twenties or early thirties, and many already had two or more children, which suggests that a considerable number may wish to limit rather than space births. For these women, long-acting reversible methods offer higher effectiveness in typical use and fewer clinic visits (Winner et al., 2012). The dominance of injectables among this group indicates an opportunity for midwives to discuss reproductive intentions more explicitly and to present long-acting options as part of routine counseling.

Taken together, the findings suggest that injectable use in this setting is sustained by a supportive combination of service, social, and individual conditions. Service-related enablers and husband support were reported more often than favorable individual factors such as knowledge and attitude. This pattern fits Andersen's model, in which enabling resources can facilitate service use even when predisposing factors are less favorable (Andersen, 1995). It also reflects the wider

Volume 02 Number 01 (May 2026)
e-ISSN: 3164-8835; p-ISSN: 3164-8827

rural context. Farming households face psychosocial and economic pressures that can make short, nearby, and predictable services particularly attractive (Maharani et al., 2025), while women in agricultural areas have specific reproductive health needs that require comprehensive, not method-specific, care (Kurniyawan et al., 2026). Family planning counseling in such communities should therefore be integrated with broader reproductive and family health services.

The findings also highlight that favorable service conditions and social support do not necessarily guarantee fully informed contraceptive decision-making. Although accessible services and supportive providers may facilitate continued contraceptive use, individual knowledge, personal preferences, and reproductive intentions remain essential considerations. From the perspective of Andersen's behavioral model, enabling resources facilitate access to health services, but their availability should be accompanied by adequate information and opportunities for individuals to make informed choices (Andersen, 1995). Similarly, the Theory of Planned Behavior emphasizes that attitudes and subjective norms contribute to behavioral intentions, while the quality of available information influences how individuals evaluate their options (Ajzen, 1991). Integrating these perspectives suggests that midwifery services should not focus exclusively on maintaining contraceptive utilization but should also ensure that women's decisions reflect their preferences, understanding, and reproductive goals.

These findings have several implications for midwifery and community nursing practice. First, the trust that communities place in independent midwives is a valuable resource that should be used to provide balanced, rights-based counseling on the full range of methods. Second, counseling should involve husbands where appropriate, while protecting women’s autonomy and confidentiality. Third, structured education on side effects, re-injection schedules, and alternative methods could close the knowledge gap identified in this study. Finally, local health authorities could support independent practices by ensuring a reliable supply of long-acting methods and by training midwives in insertion and removal procedures.

Continuity of contraceptive care is particularly important for women using injectable methods because timely reinjection, management of side effects, and periodic reassessment of contraceptive preferences are necessary components of ongoing service delivery. However, continuation should not be considered the only indicator of successful family planning care. Women should also have opportunities to reconsider their choices and switch to other methods when their reproductive intentions, health conditions, or personal preferences change. Long-acting reversible contraceptives may be relevant alternatives for women seeking highly effective methods with less frequent health facility visits (Winner et al., 2012). Therefore, independent midwifery practices should combine reliable follow-up for injectable users with comprehensive counseling and appropriate referral pathways for other contraceptive options, ensuring that continuity of care remains centered on women's informed and voluntary choices (Dehlendorf et al., 2014; Jacobstein & Polis, 2014).

This study has several limitations. The sample was small and drawn from a single independent midwifery practice, which limits generalizability to other settings. The descriptive cross-sectional design and the absence of non-users or users of other methods mean that associations and causal relationships could not be tested, and the relative ranking of factors should be interpreted with caution given the overlapping confidence intervals. All data were self-reported,

Volume 02 Number 01 (May 2026)
e-ISSN: 3164-8835; p-ISSN: 3164-8827

and because the study was conducted at the practice where respondents receive care, social desirability bias may have led to more favorable ratings of health workers and services. Service access was measured with a single item. Future studies should use analytical designs with larger, multi-site samples, include comparison groups, and explore sociocultural, economic, and couple-level factors, ideally combining quantitative and qualitative methods.

CONCLUSION

This study found that most injectable contraceptive acceptors at PMB Dian Setyorini reported easy access to services, a good role of midwives, husband support, a positive attitude, and good knowledge, with service-related conditions and spousal support being the most frequently reported favorable factors. These findings address the study aim by showing that injectable use in this rural setting is primarily underpinned by accessible, trusted midwifery services and family support, while gaps in knowledge and attitudes remain. Midwives should therefore strengthen couple-centered counseling that provides balanced information on side effects and on all contraceptive options, including long-acting methods, so that women's contraceptive choices are fully informed.

ACKNOWLEDGEMENTS

The authors would like to express their sincere appreciation to the midwives and staff at PMB Dian Setyorini for their assistance and support throughout the research process. The authors also thank all injectable contraceptive acceptors who participated in this study for their time and valuable contributions.

CONFLICT OF INTEREST

The authors declare no conflict of interest related to the conduct, authorship, or publication of this study.

REFERENCES

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: Does it matter? *Journal of Health and Social Behavior, 36*(1), 1–10. https://doi.org/10.2307/2137284

Badan Kependudukan dan Keluarga Berencana Nasional. (2023). Laporan kinerja program keluarga berencana nasional tahun 2023 [National family planning programme performance report 2023]. BKKBN.

Bruce, J. (1990). Fundamental elements of the quality of care: A simple framework. *Studies in Family Planning*, *21*(2), 61–91. https://doi.org/10.2307/1966669

Cleland, J., Conde-Agudelo, A., Peterson, H., Ross, J., & Tsui, A. (2012). Contraception and health. *The Lancet*, *380*(9837), 149–156. https://doi.org/10.1016/S0140-6736(12)60609-6

Dehlendorf, C., Krajewski, C., & Borrero, S. (2014). Contraceptive counseling: Best practices to ensure quality communication and enable effective contraceptive use. *Clinical Obstetrics and Gynecology*, *57*(4), 659–673. https://doi.org/10.1097/GRF.0000000000000059

Dinas Kesehatan Kabupaten Jember. (2023). Profil kesehatan Kabupaten Jember tahun 2023 [Jember Regency health profile 2023]. Dinas Kesehatan Kabupaten Jember.

Hindin, M. J., McGough, L. J., & Adanu, R. M. (2014). Misperceptions, misinformation and myths about modern contraceptive use in Ghana. *Journal of Family Planning and Reproductive Health Care*, *40*(1), 30–35. https://doi.org/10.1136/jfprhc-2012-100464

Jacobstein, R., & Polis, C. B. (2014). Progestin-only contraception: Injectables and implants. *Best Practice & Research Clinical Obstetrics & Gynaecology*, *28*(6), 795–806. https://doi.org/10.1016/j.bpobgyn.2014.05.003

Kriel, Y., Milford, C., Cordero, J., Suleman, F., Beksinska, M., Steyn, P., & Smit, J. A. (2019). Male partner influence on family planning and contraceptive use: Perspectives from community members and healthcare providers in KwaZulu-Natal, South Africa. *Reproductive Health*, *16*, 89. https://doi.org/10.1186/s12978-019-0749-y

Kurniyawan, E. H., Afandi, A. T., Nur, K. R. M., Kurniawan, D. E., Emerson, I., & Aung, S. S. (2026). Prenatal pesticide exposure and maternal-fetal health outcomes: A systematic review informing agro-nursing practice. *Health and Technology Journal (HTechJ)*, *4*(4), 524–535. https://doi.org/10.53713/htechj.v4i4.754

Kurniyawan, E. H., Balqis, M., Pratama, M. I. A., Hati, H. P. P., Isfadillah, O. E., Afandi, A. T., & Nur, K. R. M. (2023). Farm family support in increasing health awareness. *Health and Technology Journal (HTechJ)*, *1*(6), 616–627. https://doi.org/10.53713/htechj.v1i6.122

Latifah, N. F., Jayanti, R. D., & Hardianto, G. (2024). Sociodemographic factors on contraceptive use among married woman: Evidence from three Indonesia Demographic and Health Survey (IDHS). *Indonesian Midwifery and Health Sciences Journal*, *8*(3), 239–249. https://doi.org/10.20473/imhsj.v8i3.2024.239-249

Levesque, J.-F., Harris, M. F., & Russell, G. (2013). Patient-centred access to health care: Conceptualising access at the interface of health systems and populations. *International Journal for Equity in Health*, *12*, 18. https://doi.org/10.1186/1475-9276-12-18

Maharani, D. N., Umami, N., Yuliyani, U., Kurniyawan, E. H., Nur, K. R. M., Kurniawan, D. E., & Afandi, A. T. (2025). Psychosocial problems among farmers in agricultural areas. *Health and Technology Journal (HTechJ)*, *3*(1), 120–130. https://doi.org/10.53713/htechj.v3i1.318

Prata, N., Fraser, A., Huchko, M. J., Gipson, J. D., Withers, M., Lewis, S., Ciaraldi, E. J., & Upadhyay, U. D. (2017). Women's empowerment and family planning: A review of the literature. *Journal of Biosocial Science*, *49*(6), 713–743. https://doi.org/10.1017/S0021932016000663

Rosenstock, I. M. (1974). Historical origins of the health belief model. *Health Education Monographs*, *2*(4), 328–335. https://doi.org/10.1177/109019817400200403

Sedgh, G., & Hussain, R. (2014). Reasons for contraceptive nonuse among women having unmet need for contraception in developing countries. *Studies in Family Planning*, *45*(2), 151–169. https://doi.org/10.1111/j.1728-4465.2014.00382.x

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, *2*, 53–55. https://doi.org/10.5116/ijme.4dfb.8dfd

Tumlinson, K., Pence, B. W., Curtis, S. L., Marshall, S. W., & Speizer, I. S. (2015). Quality of care and contraceptive use in urban Kenya. *International Perspectives on Sexual and Reproductive Health*, *41*(2), 69–79. https://doi.org/10.1363/4106915

Volume 02 Number 01 (May 2026)
e-ISSN: 3164-8835; p-ISSN: 3164-8827

von Elm, E., Altman, D. G., Egger, M., Pocock, S. J., Gøtzsche, P. C., & Vandenbroucke, J. P. (2007). The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: Guidelines for reporting observational studies. *The Lancet*, *370*(9596), 1453–1457. https://doi.org/10.1016/S0140-6736(07)61602-X

Weaver, E. H., Frankenberg, E., Fried, B. J., Thomas, D., Wheeler, S. B., & Paul, J. E. (2013). Effect of village midwife program on contraceptive prevalence and method choice in Indonesia. *Studies in Family Planning*, *44*(4), 389–409. https://doi.org/10.1111/j.1728-4465.2013.00366.x

Winner, B., Peipert, J. F., Zhao, Q., Buckel, C., Madden, T., Allsworth, J. E., & Secura, G. M. (2012). Effectiveness of long-acting reversible contraception. *New England Journal of Medicine*, *366*(21), 1998–2007. https://doi.org/10.1056/NEJMoa1110855

World Medical Association. (2013). World Medical Association Declaration of Helsinki: Ethical principles for medical research involving human subjects. *JAMA*, *310*(20), 2191–2194. https://doi.org/10.1001/jama.2013.281053