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Maternal Healthcare Coverage Gaps and Provincial Disparities in Indonesia: A 2025 Descriptive Analysis

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ABSTRACT

Introduction: *Maternal healthcare coverage differs across Indonesian provinces, and national reporting of service indicators against targets is fragmented. This study aimed to describe national coverage of antenatal, childbirth, and postpartum indicators in 2025, the gaps to national targets, and the highest and lowest reported provincial values.*

Methods: *We conducted a secondary descriptive analysis of aggregate administrative data from the Indonesia Health Profile 2025. The units of analysis were national and provincial aggregate records, not individual women. Gaps were calculated as coverage minus target in percentage points, without inferential tests. Anemia prevalence from the 2023 Indonesian Health Survey was presented separately as context.* ***Results:*** *Coverage of facility-based childbirth was 81.79% (target 88%; gap −6.21 percentage points), and nine of 38 provinces met the six-visit antenatal care target. Coverage was 72.22% for tetanus-diphtheria immunization (Td2+), 73.06% for iron supplementation (≥180 tablets), and 74.33% for complete postnatal visits; no targets were available for these indicators. Reported facility-based childbirth ranged from 5.74% in Papua Pegunungan to 121.17% in DKI Jakarta; values above 100% are administrative coverage anomalies. Survey-based anemia prevalence in 2023, a different source and year, was 27.7%.*
Conclusion: *Facility-based childbirth remained below its national target, and reported provincial coverage varied substantially. Denominators and indicator definitions should be verified, and regional service gaps investigated, before provincial values are used to evaluate performance.*

Keywords : *maternal health services, prenatal care, obstetric, postnatal care, anemia*

INTRODUCTION

Maternal healthcare coverage along the continuum of care, from antenatal visits to childbirth in a health facility and postnatal visits, shapes maternal and perinatal outcomes, yet the continuum remains incomplete for many women in Indonesia. National survey analyses found that the largest dropout occurred at facility-based delivery, with postnatal care a further point of discontinuation [1], and that completion of the maternal continuum was lower among rural women and women living outside Java–Bali [2]. Regional and urban–rural disparities in antenatal care use [3], [4], regional disparities in facility-based childbirth [5], low institutional delivery in Papua, where about half of women gave birth in a health facility [6], and a higher likelihood of non-use of antenatal care in eastern provinces such as Maluku and Papua [7] have all been documented. At the same time, national coverage indicators are published in separate sections of the Indonesia Health Profile, and a consolidated view of national gaps to targets together with provincial variation is not readily available.

Coverage matters because maternal deaths remain a major concern. Maternal mortality in Indonesia declined from 390 to 189 per 100,000 live births between 1991 and 2020, against a Sustainable Development Goal target of 70 per 100,000 live births by 2030 [8]. This ratio is a population-based measure and differs from the 3,737 maternal deaths recorded through program reporting in 2025 [8]; the two are not interchangeable. Health-system and quality-of-care factors have been linked to maternal deaths in East Java [9], which supports monitoring whether antenatal, childbirth, and postnatal services reach women as intended. Indonesian standards require at least six antenatal visits (K6), including two ultrasound examinations by a physician, tetanus-diphtheria immunization, at least 180 iron tablets during pregnancy, childbirth in a health facility, and four postnatal visits (KF) [8]. The WHO recommends a minimum of eight antenatal contacts [10]; national visits and WHO contacts are defined differently and are not equivalent.

Anemia in pregnancy is considered here only as context. It is associated with adverse maternal and perinatal outcomes [11], [12], and global estimates of its burden differ with the condition and population measured [13]. In this study, anemia prevalence follows the definition of the 2023 Indonesian Health Survey (SKI) [14], without reclassification of aggregate data; the WHO hemoglobin cutoffs [15] are noted for

reference only.

The Indonesia Health Profile reports each indicator in separate sections. What is missing is a single description that places national coverage against national targets and shows the reported provincial extremes side by side, with the denominator limitations of administrative data made explicit. This study therefore (i) described national coverage in 2025 of antenatal, immunization, iron supplementation, childbirth, and postnatal indicators; (ii) calculated the gap to national targets where targets were available; and (iii) described the highest and lowest reported provincial values. The provincial analysis is limited to these reported extremes and does not cover the full distribution across the 38 provinces. Anemia prevalence from the 2023 survey is presented separately as context and is not combined with the 2025 program data.

METHODS

Study Design

This was a secondary descriptive analysis of aggregate administrative data (document review). Two sources were handled separately: (i) administrative program coverage data for 2025 from the Indonesia Health Profile 2025 [8], and (ii) anemia prevalence in pregnancy from the 2023 SKI, a population survey, as reproduced in the same document and attributed to its original report [14]. Individual women were not followed across the continuum of care, and indicators were not linked at the individual level.

Setting and Study Period

The analysis covered national records and provincial values for Indonesia's 38 provinces as reported in the Indonesia Health Profile 2025, which the Ministry of Health of the Republic of Indonesia published on 1 September 2026 (official page: https://www.kemkes.go.id/id/profil-kesehatan-indonesia-2025; accessed 19 October 2026) [8]. Program indicators refer to the calendar year 2025, and anemia prevalence refers to the 2023 survey [14]. Data extraction and analysis were carried out in October 2026, after publication.

Unit of Analysis and Data Completeness

The units of analysis were national aggregate records and the highest and lowest

provincial values reported by the source for each indicator. Pregnant women, women giving birth, and postpartum women are the populations underlying each indicator (denominators); they were not individual-level observations or study participants, and no sampling was performed. The figure of 4,833,700 pregnant women in the source is an administrative target (sasaran) used as a denominator for some indicators and is not a sample size. Each indicator has one national record and up to four provincial records (the two highest and the two lowest provinces named by the source); Only these extremes were extracted because the aim was to describe the reported range, not to assess all 38 provinces. The full provincial distribution was therefore not analyzed, and no comprehensive assessment of provincial disparities is claimed.

Variables and Operational Definitions

Operational definitions are summarized in Table 1; each indicator has its own numerator and denominator, and no single target population was applied across indicators. National and provincial coverage percentages were taken directly from the source as published and were not recalculated or averaged across provinces; only the gap to target was calculated by the authors. Anemia prevalence from the 2023 survey was taken as reported, including the age groups presented in the source.

Table 1. Operational Definitions of the Indicators Extracted

Indicator	Numerator	Denominator	Period and source
Six antenatal visits (K6)	Pregnant women who received antenatal care at least six times according to the trimester timing standard	Target pregnant women (sasaran ibu hamil)	2025; [8]
Td2+ immunization	Pregnant women who received the second or a later dose of tetanus-diphtheria vaccine	Target pregnant women (sasaran ibu hamil)	2025; [8]
Iron supplementation, ≥180 tablets	Pregnant women who were provided at least 180 iron tablets during pregnancy	Target pregnant women (sasaran ibu hamil)	2025; [8]
Facility-based childbirth	Women whose childbirth was assisted by health workers in a health facility	Target women giving birth (sasaran ibu bersalin)	2025; [8]
Complete postnatal visits (KF)	Postpartum women who received four postnatal visits	Target postpartum women (sasaran ibu nifas)	2025; [8]
Anemia prevalence (context)	Pregnant women with anemia according to the survey definition	Pregnant women examined in the survey	2023 survey; [14]

Note: Definitions follow [8]. All percentages were taken from the source as published; only gaps were

calculated by the authors. Missing values were not imputed. Antenatal visits under the national standard differ from WHO contacts [10]. All indicators measure administrative coverage except anemia prevalence, which is survey-based.

Data Collection

Data were extracted from the family health chapter and appendix tables of the Indonesia Health Profile 2025 [8]. The first author (N.M.) entered national figures, the 2025 strategic targets, and the highest and lowest provincial values into a structured extraction sheet that recorded, for each value, its source table, figure, or page. The second and third authors (F.D.A. and N.Z.) independently checked the extracted values against the source. Values in the narrative text were cross-checked against the accompanying charts and tables. Where the text, charts, and appendix tables disagreed, the value in the official appendix table was taken as the reference, and the discrepancy, the decision, and its justification were documented; a value was reported only after it had been verified, and values that could not be verified were excluded from the analysis (the national six-visit coverage value and maternal deaths by cause). Missing values were left blank and not imputed, and duplicate entries for the same province, indicator, and year were checked before analysis.

Data Analysis

The aim was descriptive, and the data were aggregate administrative records without individual-level covariates or sampling variability; therefore no inferential statistical tests were performed, and no causal or individual-level interpretation is made. Results are reported as percentages as published. The gap to target was calculated as coverage minus the 2025 strategic target, in percentage points, for the only indicator with an available national target (facility-based childbirth, 88%). The provincial range was calculated as the highest minus the lowest reported value, and the number of provinces reaching the six-visit antenatal care target was taken as stated in the source. Coverage values above 100% cannot represent a proportion of an eligible population; they were retained as published, flagged as administrative coverage anomalies, and not truncated or recoded. Such values have been linked to underestimated target populations and over-reporting in routine health facility data [16]; other possible reasons are misalignment between numerators and denominators and service use by women residing in other areas. Indicators from different sources or with different denominators (survey

prevalence versus program coverage, for example) were not treated as directly comparable.

Ethical Considerations

The study used publicly available aggregate data from a published government report and did not involve individual participants, identifiable information, or personal data.

RESULTS

National Coverage and Gap to Target

Table 2. National Coverage of Pregnancy, Childbirth, and Postpartum Service Indicators in Indonesia, 2025

Indicator	Coverage (%)	Target 2025 (%)	Gap (percentage points)
Tetanus-diphtheria immunization, Td2+	72.22	NA	NA
Iron supplementation, ≥180 tablets	73.06	NA	NA
Facility-based childbirth	81.79	88.00	−6.21
Complete postnatal visits (KF)	74.33	NA	NA

Note: Source: [8]. NA = target not available in the source used, which does not mean that no national target exists. Gap = coverage minus target, in percentage points. Td2+ = second or later tetanus-diphtheria dose; KF = four postnatal visits. Values are administrative coverage as published.

Table 2 shows national coverage in 2025. Facility-based childbirth (81.79%) was below the national target of 88%, by 6.21 percentage points. Coverage was 72.22% for Td2+ immunization, 73.06% for iron supplementation (≥180 tablets), and 74.33% for complete postnatal visits; targets for these indicators were not available in the source used. National coverage of six antenatal visits is not reported because its value could not be verified. Because the indicators have different denominators, differences among them are reported but not interpreted. All values are administrative coverage.

Provincial Variation

Table 3. Highest and Lowest Provincial Coverage Values Reported for Each Indicator, 2025

Indicator	Highest (%)	Lowest (%)
Td2+ immunization	Banten (113.33)†; DKI Jakarta (102.94)†	Papua Pegunungan (7.62); Papua Tengah (18.38)
Iron supplementation, ≥180 tablets	West Java (94.33)	Papua Pegunungan (15.35); West Papua (20.28)
Facility-based childbirth	DKI Jakarta (121.17)†; Banten (100.55)†	Papua Pegunungan (5.74); Papua Tengah (24.10)

Indicator	Highest (%)	Lowest (%)
Complete postnatal visits (KF)	Banten (100.48)†; DKI Jakarta (100.47)†	Papua Pegunungan (7.51); Maluku Utara (9.56)

Note: Source: [8]. Each cell lists the two highest or two lowest provinces reported by the source for that indicator. † Value above 100%, an administrative coverage anomaly reported as published and not recoded.

Reported coverage varied widely between provinces (Table 3). Nine of the 38 provinces reached the six-visit antenatal care target of 80%. Reported facility-based childbirth ranged from 5.74% in Papua Pegunungan to 121.17% in DKI Jakarta, and complete postnatal visits from 7.51% in Papua Pegunungan to 100.48% in Banten. Td2+ immunization ranged from 7.62% in Papua Pegunungan to 113.33% in Banten. For iron supplementation, West Java reported the highest extracted value (94.33%), whereas Papua Pegunungan (15.35%) and West Papua (20.28%) reported the lowest. Values above 100% were reported for Td2+ immunization, facility-based childbirth, and complete postnatal visits (Table 3); these are administrative coverage anomalies that require cautious interpretation. The values describe reported extremes only: they do not establish actual inequality in access, and the provinces are not ranked as performers. The full distribution across the 38 provinces is not reported.

Anemia Context from the 2023 Survey

The figures in this subsection come from the 2023 SKI [14], as reported in the Indonesia Health Profile 2025 [8]. They are supplementary contextual data, not 2025 results, and they are not comparable with program coverage because the source, year, and population differ. Anemia prevalence among pregnant women was 27.7% overall. Only two age groups were extracted, 31.4% at ages 25–34 years and 39.6% at ages 35–44 years, so they do not represent a complete age-specific distribution. No confidence intervals were calculated because the survey design information was not available.

DISCUSSION

This descriptive analysis of aggregate administrative data showed two principal findings: facility-based childbirth, the indicator with an available national target, remained below it in 2025, and reported coverage varied widely between provinces. These findings indicate that gaps in maternal healthcare coverage persist and are unevenly distributed, which is relevant for the planning of midwifery and referral services. Anemia data from the 2023 survey, a different source and year, are contextual and were not combined with the 2025 coverage data.

Antenatal Care Coverage

Only nine of 38 provinces reached the six-visit antenatal care target, which indicates uneven coverage between provinces. Survey-based studies have likewise reported regional and urban–rural differences in antenatal care use [3], [4], and a 2023 survey analysis found that non-use of antenatal care was more likely among the poorest households and in Maluku and Papua [7]. The reported provincial pattern is consistent in direction with this evidence, although administrative coverage and survey-reported use measure different things and cannot be compared numerically. The source attributes the remaining gap to access, service quality, and the uneven distribution of competent health workers [8]; none of these was examined here, and K6 indicates only whether the visit criterion was met, not the quality of each examination. Local midwifery studies have examined satisfaction with 10T antenatal services [17] and the effect of maternal classes on knowledge of pregnancy danger signs [18], which treat service content and counseling as part of antenatal care quality, but they are local and do not explain the national pattern. K6 is not equivalent to the WHO recommendation of eight contacts [10]. Td2+ immunization is delivered within antenatal care, and its lower coverage relative to the antenatal target is a descriptive observation only; missed opportunities remain a hypothesis that aggregate data cannot test.

Anemia and Iron Supplementation as Context

Anemia is associated with adverse pregnancy outcomes [11], [12], which explains its relevance to antenatal services. However, its prevalence in the 2023 survey and the 2025 program coverage come from different sources, years, and populations and were not statistically linked, so no association between anemia and service coverage can be inferred. Iron supplementation coverage reflects the provision of at least 180 tablets, not their consumption. Adherence has been related to knowledge, family support, and the motivation of health workers [19], and national survey analyses associated lower compliance with fewer and lower-quality antenatal visits [20] and receipt of iron supplements with attending antenatal care [21]. Determinants of anemia in pregnancy in Indonesia, such as nutritional status and education [22], were not examined in this study.

Childbirth, Postnatal Care, and Regional Disparities

Facility-based childbirth did not reach the national target, and the lowest reported values were in Papua Pegunungan and Papua Tengah. Regional studies point in the same

direction: a survey in the Papua region reported about half of women giving birth in a health facility, with complete antenatal care strongly associated with facility delivery [6], and national survey analyses showed marked differences in facility-based childbirth between regions, with Java–Bali highest [5]. These comparisons are indirect because design, area, year, and denominator differ. Health service challenges such as geography, workforce, and referral may be relevant in these provinces, but they were not assessed here and are not assumed to be causes. Reported postnatal coverage should be read with caution because an administrative denominator does not establish the proportion of individual women who did not attend; survey evidence indicates that postnatal care after discharge is particularly low [23]. The postnatal period also offers an opportunity for contraception counseling, and contraceptive use has been associated with maternal mortality at the community level [24]. Coverage above 100% in some provinces indicates that numerators and denominators may not be aligned, that target populations may have been misestimated, or that women from other areas used the services; the source reviewed does not document the cause, and similar anomalies in routine data have been attributed to denominator problems and over-reporting [16]. Provincial extremes are therefore treated as administrative variation, not as definitive rankings of healthcare access, quality, or performance.

Implications for Midwifery Practice and Policy

The findings support the following priorities for midwifery services and health policy. They are directions for action and evaluation, not interventions whose effectiveness was tested in this study. First, because only nine of 38 provinces reached the six-visit target, midwifery services can review whether each antenatal visit is completed and recorded according to the standard, including hemoglobin screening and counseling on iron tablet adherence. Second, because facility-based childbirth was below target and lowest in the Papua provinces, referral pathways and facility-based childbirth services in these areas should be strengthened and evaluated together with workforce and facility data, given that health-system and quality-of-care factors have been linked to maternal deaths [9]. Third, postnatal follow-up in underserved areas can be supported through continuity-of-care approaches in midwifery practice, such as those documented at facility level [25], although their effectiveness at scale remains to be evaluated. Finally, health authorities should verify denominators and indicator

definitions before coverage values are used to compare provinces.

Limitations

This study used aggregate administrative data, so it could not explain the causes of differences in coverage, test associations between variables, or measure continuity of care for individual women. Only the highest and lowest provincial values reported by the source were analyzed; the full distribution across the 38 provinces should be examined in future studies using the complete provincial tables. Coverage values above 100% show that numerators and denominators may not be aligned, and administrative targets used as denominators and reporting practices may bias coverage. Indicator definitions differ between the national standard and WHO recommendations, between indicators with different denominators, and between program coverage and survey prevalence, so these figures cannot be compared directly. Anemia prevalence comes from the 2023 survey and was not linked to 2025 service coverage. Finally, all values were taken from a single published source and depend on its accuracy.

CONCLUSIONS

This descriptive analysis of aggregate administrative data showed that national coverage of facility-based childbirth, the indicator with an available national target, remained below target in 2025 and that reported coverage varied substantially between provinces, with the lowest values in the Papua provinces. Because several provinces reported values above 100%, denominators and indicator definitions should be verified before provincial figures are used to evaluate performance. Midwifery services and health authorities should give priority to completing antenatal visits, strengthening referral and facility-based childbirth services, and supporting postnatal follow-up in underserved areas, and should evaluate these efforts. Anemia from the 2023 survey was presented only as context. Future studies should use complete provincial and individual-level data to examine continuity of care and the factors associated with service coverage.

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AUTHOR CONTRIBUTIONS

N.M.: conceptualization, data extraction, data analysis, and writing of the original draft. F.D.A. and N.Z.: methodology, validation, and review and editing.

FUNDING, CONFLICT OF INTEREST, AND DATA AVAILABILITY

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Conflict of interest: The authors declare no conflict of interest.

Data availability: All data analyzed in this study are publicly available in the Indonesia Health Profile 2025 published by the Ministry of Health of the Republic of Indonesia (https://www.kemkes.go.id/id/profil-kesehatan-indonesia-2025; accessed 19 October 2026) [8] and, for anemia prevalence, in the SKI 2023 report [14].

REFERENCES

[1] A. Rammohan, S. Goli, and H. Chu, "Continuum of care in maternal and child health in Indonesia," *Prim. Health Care Res. Dev.*, vol. 25, Art. no. e17, Apr. 2024, doi: 10.1017/S1463423624000094. Available: https://doi.org/10.1017/S1463423624000094

[2] V. Widyaningsih et al., "Exploring the multilevel determinants of suboptimal maternal and child continuum of care in Indonesia," *Matern. Child Health J.*, vol. 29, no. 7, pp. 919–931, Jul. 2025, doi: 10.1007/s10995-025-04110-w. Available: https://doi.org/10.1007/s10995-025-04110-w

[3] A. D. Laksono, R. Rukmini, and R. D. Wulandari, "Regional disparities in antenatal care utilization in Indonesia," *PLoS ONE*, vol. 15, no. 2, Art. no. e0224006, Feb. 2020, doi: 10.1371/journal.pone.0224006. Available: https://doi.org/10.1371/journal.pone.0224006

[4] R. D. Wulandari, A. D. Laksono, and N. Rohmah, "Urban-rural disparities of antenatal care in South East Asia: A case study in the Philippines and Indonesia," *BMC Public Health*, vol. 21, Art. no. 1221, 2021, doi: 10.1186/s12889-021-11318-2. Available: https://doi.org/10.1186/s12889-021-11318-2

[5] A. D. Laksono and R. D. Wulandari, "Regional disparities of facility-based childbirth in Indonesia," *Trends Sci.*, vol. 18, no. 21, Art. no. 387, Oct. 2021, doi: 10.48048/tis.2021.387. Available: https://doi.org/10.48048/tis.2021.387

[6] N. K. Putri et al., "Factors associated with institutional delivery in remote areas: A cross-sectional survey in Papua Region, Indonesia," *BMC Pregnancy Childbirth*, vol. 25, Art. no. 1124, Oct. 2025, doi: 10.1186/s12884-025-08231-6. Available: https://doi.org/10.1186/s12884-025-08231-6

[7] C. R. Titaley et al., "Determinants of non-use of antenatal care services in eastern Indonesia: Analysis of the 2023 Indonesia Health Survey," *Front. Glob. Women's Health*, vol. 6, Art. no. 1649276, Aug. 2025, doi: 10.3389/fgwh.2025.1649276. Available: https://doi.org/10.3389/fgwh.2025.1649276

[8] Kementerian Kesehatan Republik Indonesia, Profil Kesehatan Indonesia 2025. Jakarta, Indonesia: Kementerian Kesehatan RI, Sep. 1, 2026. [Online]. Available: https://www.kemkes.go.id/id/profil-kesehatan-indonesia-2025 (accessed Oct. 19, 2026).

[9] M. A. Mahmood et al., "Health system and quality of care factors contributing to maternal deaths in East Java, Indonesia," *PLoS ONE*, vol. 16, no. 2, Art. no. e0247911, 2021, doi: 10.1371/journal.pone.0247911. Available: https://doi.org/10.1371/journal.pone.0247911

[10] World Health Organization, *WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience*. Geneva, Switzerland: WHO, 2016. Available: https://iris.who.int/handle/10665/250796

[11] R. Wang et al., "Anemia during pregnancy and adverse pregnancy outcomes: A systematic review and meta-analysis of cohort studies," *Front. Glob. Women's Health*, vol. 6, Art. no. 1502585, 2025, doi: 10.3389/fgwh.2025.1502585. Available: https://doi.org/10.3389/fgwh.2025.1502585

[12] M. M. Rahman et al., "Maternal anemia and risk of adverse birth and health outcomes in low- and middle-income countries: Systematic review and meta-analysis," *Am. J. Clin. Nutr.*, vol. 103, no. 2, pp. 495–504, Feb. 2016, doi: 10.3945/ajcn.115.107896. Available: https://doi.org/10.3945/ajcn.115.107896

[13] S. S. Kebede et al., "Global prevalence of iron deficiency anemia and its variation with different gestational age: A systematic review and meta-analysis," *Clin. Nutr. Open Sci.*, vol. 59, pp. 68–86, Feb. 2025. Available: https://doaj.org/article/39896564e30b44bf8c0753a4e5165cb5

[14] Kementerian Kesehatan Republik Indonesia, SKI 2023 Dalam Angka. Jakarta, Indonesia: Badan Kebijakan Pembangunan Kesehatan, Kementerian Kesehatan RI, 2024. [Online]. Available: https://www.badankebijakan.kemkes.go.id/ski2023-dalam-angka/ (accessed Oct. 19, 2026).

[15] World Health Organization, Guideline on Haemoglobin Cutoffs to Define Anaemia in Individuals and Populations. Geneva, Switzerland: WHO, 2024. [Online]. Available: https://www.who.int/publications/i/item/9789240088542 (accessed Oct. 19, 2026).

[16] G. Agiraembabazi et al., "Can routine health facility data be used to monitor subnational coverage of maternal, newborn and child health services in Uganda?," *BMC Health Serv. Res.*, vol. 21, suppl. 1, Art. no. 512, Sep. 2021, doi:

10.1186/s12913-021-06554-6. Available: https://doi.org/10.1186/s12913-021-06554-6

[17] S. Dinengsih, R. Kundaryanti, and L. Nurdiani, "The analysis of factors of pregnant mother satisfaction with 10T antenatal services in Garut, West Java," *Midwiferia J. Kebidanan*, vol. 10, no. 1, pp. 19–34, Apr. 2024, doi: 10.21070/midwiferia.v10i1.1687. Available: https://doi.org/10.21070/midwiferia.v10i1.1687

[18] R. Kundaryanti, S. Dinengsih, and N. Budiani, "Effectiveness of maternal class programme on knowledge of pregnancy danger signs," *Midwiferia J. Kebidanan*, vol. 10, no. 1, pp. 11–18, Apr. 2024, doi: 10.21070/midwiferia.v10i1.1686. Available: https://doi.org/10.21070/midwiferia.v10i1.1686

[19] R. N. Atmadani et al., "Supports and barriers regarding the iron-folic acid supplementation adherence level in anemic pregnant women: Indonesian's perspective," *Media Kesehat. Masy. Indones.*, vol. 20, no. 2, pp. 46–56, 2024, doi: 10.30597/mkmi.v20i2.32569. Available: https://doi.org/10.30597/mkmi.v20i2.32569

[20] S. Noptriani and D. Simbolon, "Probability of non-compliance to the consumption of iron tablets in pregnant women in Indonesia," *J. Prev. Med. Hyg.*, vol. 63, no. 3, pp. E456–E463, Oct. 2022, doi: 10.15167/2421-4248/jpmh2022.63.3.2340. Available: https://doi.org/10.15167/2421-4248/jpmh2022.63.3.2340

[21] F. Efendi et al., "Factors associated with receiving iron supplements during pregnancy among women in Indonesia," *Electron. J. Gen. Med.*, vol. 20, no. 5, Art. no. em506, 2023, doi: 10.29333/ejgm/13266. Available: https://doi.org/10.29333/ejgm/13266

[22] M. S. Ita, S. Ronoatmodjo, D. Ocviyanti, and A. C. Adisasmita, "Determinants of anaemia in pregnancy in Indonesia: A systematic review," *Ann. Health Res.*, vol. 11, no. 3, pp. 216–232, 2025, doi: 10.30442/ahr.1103-01-288. Available: https://doi.org/10.30442/ahr.1103-01-288

[23] S. K. Sebayang et al., "Utilization of postnatal care service in Indonesia and its association with women's empowerment: An analysis of 2017 Indonesian Demographic Health Survey data," *Matern. Child Health J.*, vol. 26, no. 3, pp. 545–555, Mar. 2022, doi: 10.1007/s10995-021-03324-y. Available: https://doi.org/10.1007/s10995-021-03324-y

[24] R. I. Aryanty et al., "Contraceptive use and maternal mortality in Indonesia: A community-level ecological analysis," *Reprod. Health*, vol. 18, no. 1, pp. 1–9, Feb. 2021, doi: 10.1186/s12978-020-01022-6. Available: https://doi.org/10.1186/s12978-020-01022-6

[25] H. Nufus and R. Rosyidah, "Midwifery care continuity of care at Delta Mutiara Clinic and Maternity Hospital, Sidoarjo," *Midwiferia J. Kebidanan*, vol. 10, no. 1,

pp. 42–49, Apr. 2024, doi: 10.21070/midwiferia.v10i1.1711. Available: https://doi.org/10.21070/midwiferia.v10i1.1711