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# Unintended pregnancy in midlife women: a narrative review of prevention frameworks and health system challenges in Indonesia

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## ABSTRACT

Unintended pregnancy among midlife women (approximately 40–55 years) remains marginal within reproductive health research, despite persistent fertility during the perimenopausal transition and elevated maternal health risks at older ages. This narrative review synthesises peer-reviewed empirical studies, clinical guidelines, and policy documents to examine determinants of unintended pregnancy among midlife women, with particular attention to health system and regulatory contexts in Indonesia. The review identifies biological uncertainty during perimenopause, reduced contraceptive vigilance, limited access to long-acting reversible contraception, and insufficient age-responsive counselling as key drivers of unintended pregnancy in midlife. In Indonesia, these risks are compounded by weak integration between reproductive health services and chronic disease management, as well as regulatory ambiguity following recent legal reforms. Based on this synthesis, the article proposes a three-tier prevention framework encompassing primary prevention (fertility awareness and contraceptive counselling), secondary prevention (early pregnancy detection and risk assessment), and tertiary prevention (timely, rights-based clinical management for medically complex pregnancies). Unintended pregnancy in midlife is not an exceptional event but a structurally produced public health issue shaped by interactions between biological, behavioural, health system, and policy factors. Addressing this challenge requires a life-course approach that integrates reproductive health with chronic disease care and aligns clinical practice with coherent, age-responsive policy frameworks to improve maternal health outcomes and reproductive autonomy.



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## Introduction

Unintended pregnancy among women in midlife remains a persistent yet under-recognized public health issue across diverse health systems. Although fertility declines with age, women aged

approximately 40–55 continue to experience unplanned pregnancies, particularly during the perimenopausal transition when reproductive risk is commonly assumed to be minimal (Johnson 2022; Ramlakhan, Johnson, and Roos-Hesselink 2020). Clinical and population-based studies from high-income settings show that between 30% and 48% of pregnancies among women in their early forties are unintended, underscoring that declining fertility does not eliminate pregnancy risk but rather renders it less predictable (Nelson et al. 2022).

This persistence is closely linked to biological uncertainty characteristic of midlife reproduction. Irregular menstrual cycles, fluctuating hormone levels, and intermittent ovulation during perimenopause complicate fertility awareness and often lead women to discontinue contraception prematurely or rely on less effective methods (M. and C. 2018). Clinical guidelines recognize women aged over 40 as a distinct reproductive group requiring tailored contraceptive counselling, given the unpredictability of ovulation during perimenopause and the continued risk of unintended pregnancy (Secor and Stendig-Raskin 2023). These biological dynamics interact with behavioral responses, particularly reduced contraceptive vigilance, producing a gap between perceived and actual fertility risk (Beltz 2024). Importantly, this gap is not solely an individual-level phenomenon but is shaped by health system practices and policy assumptions that implicitly frame midlife women as having low reproductive relevance (Secor and Stendig-Raskin 2023).

Similar patterns are evident in low- and middle-income countries, including Indonesia, where unintended pregnancy remains a significant concern. National estimates suggest that 16–18% of pregnancies are unintended, with age-disaggregated analyses indicating heightened vulnerability among women aged 40–49 (The DHS Program 2024). Qualitative and survey-based studies show that many Indonesian women in midlife remain sexually active yet use contraception inconsistently, frequently interpreting menstrual irregularity as infertility (West et al. 2014). At the same time, reproductive health programmers and counselling services in Indonesia continue to prioritize younger women, while contraceptive guidance for women approaching menopause remains limited and poorly integrated into routine care (Mandias, Kristamuliana, and Meo 2023; Väisänen and Batyra 2022).

The consequences of unintended pregnancy in midlife extend beyond its occurrence. Pregnancy at older ages is associated with increased clinical risk, particularly in the presence of chronic conditions such as hypertension, diabetes, and obesity, which are more prevalent after the age of 40 (Ayoola 2015). When pregnancies are unintended, delayed recognition and late initiation of antenatal care are common, increasing the risk of adverse maternal and neonatal outcomes. In addition, unintended pregnancy during midlife often generates substantial psychosocial strain, as women in this life stage frequently manage multiple responsibilities related to family care, employment, and economic stability. In sociocultural contexts such as Indonesia, where pregnancy is normatively associated with younger adulthood, midlife pregnancy may also attract stigma, further discouraging timely care-seeking (Firoz et al. 2022; Nguyen 2006).

Despite these well-documented biological, behavioral, and social risks, unintended pregnancy in midlife remains marginal within reproductive health research and policy frameworks. Dominant prevention strategies continue to focus on adolescents and young adults, while women approaching menopause are often rendered invisible within definitions of “reproductive age.” As a result, evidence-based prevention frameworks that address the specific needs of midlife women—particularly those with chronic health conditions—remain limited, and reproductive counselling is rarely integrated into chronic disease management despite frequent healthcare contact in this age group (Kerber et al. 2007).

In Indonesia, these gaps are further compounded by an evolving legal and regulatory landscape. The 2023 Health Law advances a rights-based framework that expands access to medically indicated pregnancy termination, while the revised Criminal Code retains restrictive provisions that may generate uncertainty among healthcare providers (Daniswara Demas Saputra 2022; Furgalska and De Londras 2024). This regulatory ambiguity can result in provider hesitation and inconsistent service delivery, disproportionately affecting midlife women with complex medical profiles who require timely and informed reproductive care (Simmons et al. 2024).

This article addresses this gap by providing a narrative review of unintended pregnancy among midlife women, with a particular focus on prevention frameworks, health system responses, and policy challenges in Indonesia. Drawing on a life-course perspective, the article integrates biological,

behavioural, sociocultural, and regulatory dimensions to (1) synthesis existing evidence on determinants of unintended pregnancy in midlife, (2) assess the limitations of current prevention approaches, and (3) identify policy-relevant implications for developing more inclusive, age-responsive reproductive health strategies.

## Method

This study adopts a narrative review approach to examine unintended pregnancy among midlife women (approximately 40–55 years), with a particular focus on determinants, prevention frameworks, and policy challenges in the Indonesian context. A narrative review was chosen to allow for integrative analysis across biomedical, behavioural, sociocultural, and policy-oriented literatures that are not easily captured within a single methodological tradition. This approach is particularly appropriate for examining complex public health issues that span biological, behavioural, and policy domains.

Relevant peer-reviewed literature was identified through targeted searches of major academic databases, including studies on unintended pregnancy, perimenopause, contraceptive use in later reproductive age, and maternal health risks. Search terms combined keywords related to unintended pregnancy, midlife or older reproductive age women, perimenopause, and contraception. To contextualise findings within Indonesia, the review was supplemented with national survey data, clinical guidelines, and policy and legal documents related to reproductive health, family planning, and maternal care.

The analysis focused on identifying recurring themes related to biological uncertainty, contraceptive behaviour, health system responses, and regulatory environments. These themes were synthesised using a life-course perspective to examine how reproductive risk in midlife is shaped by interactions between individual behaviour, service provision, and policy context. Based on this synthesis, a three tier prevention framework encompassing primary, secondary, and tertiary prevention was developed to organise evidence and highlight policy and practice relevant implications for addressing unintended pregnancy among midlife women in Indonesia.

## Results and Discussions

### Reframing unintended pregnancy in midlife: from individual risk to systemic failure

This review demonstrates that unintended pregnancy among midlife women should not be understood as a residual outcome of individual misjudgement or contraceptive non-adherence alone. Rather, it reflects a systemic failure to recognise midlife women as an active reproductive group within health systems and policy frameworks (Beltz 2024; Johnson-Mallard et al. 2017). While declining fertility is biologically evident, the persistence of ovulation during perimenopause introduces substantial uncertainty that reshapes—rather than eliminates—pregnancy risk (Mishra et al. 2024; Woods et al. 2021). When this uncertainty intersects with age-related assumptions embedded in clinical practice and family planning programmes, unintended pregnancy becomes a predictable outcome rather than an anomaly.

Existing reproductive health frameworks largely conceptualise unintended pregnancy through the lens of adolescents and younger adults, where the primary concern is high fertility and early childbearing (Bearak et al. 2018). Midlife women, by contrast, are positioned at the margins of reproductive health policy, despite facing distinct vulnerabilities related to chronic disease prevalence, delayed pregnancy recognition, and heightened obstetric risk (Ayoola 2015; Lassi, Wade, and Ameyaw 2025). This misalignment highlights the need to reconceptualise unintended pregnancy in midlife as a life-course issue shaped by health system design, service prioritisation, and policy assumptions, rather than as an individual behavioural failure (Kerber et al. 2007).

### Health system blind spots in midlife reproductive care

A central finding of this review is the presence of structural blind spots within health systems that systematically marginalise midlife women's reproductive needs. Although women aged 40–55 frequently interact with healthcare services—particularly for non-communicable disease

management—these encounters rarely include assessment of pregnancy risk or reproductive intentions (Hall et al. 2019; Rachmawati, Prihhastuti-Puspitasari, and Zairina 2019). This separation reflects the persistence of siloed service delivery models in which reproductive health is treated as a discrete domain, disconnected from chronic disease care (Kerber et al. 2007).

Provider-related factors further reinforce these blind spots. Clinical encounters are often shaped by implicit assumptions that women nearing menopause have negligible fertility, resulting in missed opportunities for contraceptive counselling and pregnancy risk assessment (Secor and Stendig-Raskin 2023). In addition, gaps in provider training regarding contraceptive eligibility for women with chronic conditions contribute to overly conservative recommendations, despite international guidance indicating that most long-acting reversible contraceptive (LARC) methods are medically appropriate for midlife women, including those with stable comorbidities (Bizjak et al. 2024; Väisänen and Batyra 2022; World Health Organization (WHO) 2013). These practices reflect not only individual provider preferences but also institutional norms that frame reproductive counselling as less relevant beyond early adulthood (Bizjak et al. 2024; Keeley et al. 2018).

In the Indonesian context, these health system dynamics are intensified by programme design. Family planning services have historically prioritised younger married couples, reinforcing a narrow operational definition of reproductive age (Mandias et al. 2023). Midlife women are therefore largely invisible within service planning, monitoring indicators, and outreach strategies, despite evidence of continued sexual activity and inconsistent contraceptive use in this age group (Johnson, Jou, and Upchurch 2019; West et al. 2014). The result is not an absence of reproductive need, but an absence of institutional recognition (Mahsyar 2011).

### Prevention framework as a system-level intervention

Against this backdrop, the three-tier prevention framework proposed in this article should be understood as a system-level intervention embedded within routine care pathways rather than as a set of isolated behavioural recommendations. Primary prevention focuses on correcting misperceptions about age-related fertility decline through age-responsive counselling, particularly during clinical encounters for chronic disease management (Hall et al. 2019; Hoyt and Falconi 2015). Integrating reproductive life planning into these encounters aligns prevention efforts with women's existing patterns of healthcare utilisation and acknowledges that reproductive risk persists even as fertility declines (Johnson-Mallard et al. 2017).

Secondary prevention addresses the challenges of delayed pregnancy recognition in midlife. Given the symptom overlap between early pregnancy and perimenopause, routine pregnancy testing in response to unexplained clinical changes or prior to medication adjustments represents a pragmatic harm-reduction strategy (Ayoola 2015). Early detection enables timely clinical decision-making, including medication review, risk assessment, and discussion of pregnancy intentions, thereby reducing preventable maternal and neonatal morbidity (Lassi et al. 2025).

Tertiary prevention focuses on comprehensive management once pregnancy is established. For midlife women, this includes early engagement with antenatal care, integrated management of chronic conditions, and access to appropriate psychosocial support (Simmons et al. 2024). Where pregnancy termination is legally permitted under specific indications, access to timely and high-quality services—including post-abortion care—constitutes an essential component of maternal health protection (Firoz et al. 2022; World Health Organization (WHO) 2013). Conceptualising prevention across these tiers underscores that unintended pregnancy in midlife is a continuum of risk requiring coordinated responses across the health system.

### Legal-policy tensions and implications for clinical practice

The effectiveness of prevention efforts is closely shaped by the legal and regulatory environment in which care is delivered. In Indonesia, the coexistence of the rights-based Health Law (Law No. 17/2023) and the revised Criminal Code (Law No. 1/2023) creates normative ambiguity for healthcare providers, particularly in relation to pregnancy termination and clinical discretion (Furgalska and De Londras 2024; Muhafid et al. 2025). While this review does not claim direct empirical evidence of regulatory chill in Indonesia, socio-legal scholarship from comparable contexts demonstrates that ambiguous or restrictive legal frameworks can discourage clinicians from initiating discussions related to pregnancy risk, reproductive intentions, or lawful termination options (De Londras and Enright 2018).

Rather than presenting regulatory chill as an empirically established phenomenon, this analysis positions it as a plausible mechanism through which legal uncertainty may indirectly shape clinical behaviour. Evidence from other settings suggests that when providers perceive legal risk—even in the absence of enforcement—they may adopt defensive practices that prioritise legal safety over clinical openness (Simmons et al. 2024). For midlife women, whose reproductive needs already fall outside dominant policy priorities, such uncertainty may further restrict access to timely and comprehensive care.

### Implications for policy and practice in Indonesia

The findings of this review carry several implications for reproductive health policy and practice in Indonesia. First, midlife women should be explicitly recognised within family planning strategies as a distinct group with ongoing fertility risk and heightened medical vulnerability (Väisänen and Batyra 2022). Second, reproductive counselling should be systematically integrated into chronic disease management programmes, such as Prolanis, to reduce missed opportunities for prevention and align care with women's life-course needs (Bizjak et al. 2024; Mandias et al. 2023; Rachmawati et al. 2019). Third, provider training should address age-related bias and strengthen confidence in offering evidence-based contraceptive options, particularly LARC, to women with chronic conditions (Secor and Stendig-Raskin 2023).

At the policy level, greater coherence between health and criminal law frameworks is essential to support clinical decision-making and safeguard reproductive autonomy (Furgalska and De Londras 2024). Without such alignment, prevention efforts risk being undermined by uncertainty at the point of care. Overall, addressing unintended pregnancy among midlife women requires a shift from age-blind reproductive health policies toward life-course-responsive systems that recognise reproductive risk as dynamic, context-dependent, and institutionally shaped.

## Conclusions

Unintended pregnancy among midlife women remains an under-recognized reproductive health issue in Indonesia, shaped by the interaction of biological transitions, persistent fertility misconceptions, and systemic gaps in health service provision. This narrative review demonstrates that declining fertility during perimenopause does not equate to the absence of pregnancy risk, particularly in contexts where age-responsive contraceptive counselling is limited and reproductive health services remain narrowly focused on younger women.

The findings highlight that prevention efforts cannot rely solely on individual behavioral change. Instead, unintended pregnancy in midlife should be understood as a health system and policy challenge, requiring integrated responses across clinical practice, service delivery, and regulatory frameworks. Fragmented care, inadequate integration of reproductive health into chronic disease management, and legal ambiguities affecting clinical decision-making collectively constrain effective prevention and risk management.

By proposing a life-course-oriented prevention framework, this review contributes a conceptual model that links primary, secondary, and tertiary prevention across individual, clinical, health system, and policy levels. This framework offers a foundation for future empirical research, including health system assessments and policy analysis, as well as practical guidance for strengthening reproductive health strategies for midlife women. Addressing unintended pregnancy in this population is essential not only for improving maternal health outcomes, but also for advancing reproductive justice and age-inclusive health systems in Indonesia.

## References

- Ayoola, Adejoke B. 2015. "Late Recognition of Unintended Pregnancies." *Public Health Nursing*. doi: 10.1111/phn.12182.
- Bearak, Jonathan, Anna Popinchalk, Leontine Alkema, and Gilda Sedgh. 2018. "Global, Regional, and Subregional Trends in Unintended Pregnancy and Its Outcomes from 1990 to 2014: Estimates from

- a Bayesian Hierarchical Model." *The Lancet Global Health* 6(4):e380–89. doi: 10.1016/S2214-109X(18)30029-9.
- Beltz, Adriene M. 2024. "Hormonal Contraceptives and Behavior: Updating the Potent State of the Nascent Science." *Hormones and Behavior*. doi: 10.1016/j.yhbeh.2024.105574.
- Bizjak, Isabella, Niklas Envall, Karin Emtell Iwarsson, Helena Kopp Kallner, and Kristina Gemzell-Danielsson. 2024. "Contraceptive Uptake and Compliance after Structured Contraceptive Counseling - Secondary Outcomes of the LOWE Trial." *Acta Obstetrica et Gynecologica Scandinavica*. doi: 10.1111/aogs.14792.
- Daniswara Demas Saputra. 2022. "Pelaksanaan Inpres Nomor 1 Tahun 2022 Tentang Optimalisasi Jaminan Kesehatan Nasional Mencederai Pelayanan Publik Bidang Kesehatan." *Jurnal Ilmu Sosia*.
- Firoz, Tabassum, Beth Pineles, Nishika Navrange, Alyssa Grimshaw, Olufemi Oladapo, and Doris Chou. 2022. "Non-Communicable Diseases and Maternal Health: A Scoping Review." *BMC Pregnancy and Childbirth*. doi: 10.1186/s12884-022-05047-6.
- Furgalska, Magdalena, and Fiona De Londras. 2024. "Towards a Rights-Based Approach for Disabled Women's Access to Abortion." *Medical Law Review*. doi: 10.1093/medlaw/fwae026.
- Hall, Kelli Stidham, Jennifer L. Beauregard, Shelby T. Rentmeester, Melvin Livingston, and Kathleen Mullan Harris. 2019. "Adverse Life Experiences and Risk of Unintended Pregnancy in Adolescence and Early Adulthood: Implications for Toxic Stress and Reproductive Health." *SSM - Population Health* 7:100344. doi: 10.1016/j.ssmph.2018.100344.
- Hoyt, Lindsay Till, and April M. Falconi. 2015. "Puberty and Perimenopause: Reproductive Transitions and Their Implications for Women's Health." *Social Science and Medicine*.
- Johnson-Mallard, Versie, Elizabeth A. Kostas-Polston, Nancy Fugate Woods, Katherine E. Simmonds, Ivy M. Alexander, and Diana Taylor. 2017. "Unintended Pregnancy: A Framework for Prevention and Options for Midlife Women in the US." *Women's Midlife Health*. doi: 10.1186/s40695-017-0027-5.
- Johnson, Pamela Jo, Judy Jou, and Dawn M. Upchurch. 2019. "Health Care Disparities Among U.S. Women of Reproductive Age by Level of Psychological Distress." *Journal of Women's Health* 28(9):1286–94. doi: 10.1089/jwh.2018.7551.
- Johnson, Sarah C. 2022. "Innovative Social Work Field Placements in Public Libraries." *Social Work Education*. doi: 10.1080/02615479.2021.1908987.
- Keeley, Annika T. H., Galli Basson, D. Richard Cameron, Nicole E. Heller, Patrick R. Huber, Carrie A. Schloss, James H. Thorne, and Adina M. Merenlender. 2018. "Making Habitat Connectivity a Reality." *Conservation Biology* 32(6):1221–32. doi: 10.1111/cobi.13158.
- Kerber, Kate J., Joseph E. de Graft-Johnson, Zulfiqar A. Bhutta, Pius Okong, Ann Starrs, and Joy E. Lawn. 2007. "Continuum of Care for Maternal, Newborn, and Child Health: From Slogan to Service Delivery." *Lancet (London, England)* 370(9595):1358–69. doi: 10.1016/S0140-6736(07)61578-5.
- Lassi, Zohra S., Jeannette M. Wade, and Edward Kwabena Ameyaw. 2025. "Stages and Future of Women's Health: A Call for a Life-Course Approach." *Women's Health*.
- De Londras, Fiona, and Máiréad Enright. 2018. *Repealing the 8th: Reforming Irish Abortion Law*.
- M., Vander Borgh, and Wyns C. 2018. "Fertility and Infertility: Definition and Epidemiology." *Clinical Biochemistry*.
- Mahsyar, Abdul. 2011. "Masalah Pelayanan Publik Di Indonesia Dalam Perspektif Administrasi Publik." *Otoritas : Jurnal Ilmu Pemerintahan*. doi: 10.26618/ojip.v1i2.22.
- Mandias, Veronica, Kristamuliana, and Maria Lupita Nena Meo. 2023. "Persepsi Lanjut Usia Mengenai Menopause Di Kecamatan Remboken." *Jurnal Keperawatan* 11(1):86–97. doi: 10.35790/jkp.v11i1.48464.
- Mishra, Sudhanshu, Rishabha Malviya, Smriti Ojha, and Manisha Pandey. 2024. *Women's Health: A Comprehensive Guide to Common Health Issues in Women*.
- Muhafid, Muhafid, Wildan Wildan, Perdana Akbar Pratama, and Ahmad Ma'mun Fikri. 2025. "Transformasi UU No. 17 Tahun 2023 Dalam Mendorong Sistem Kesehatan Yang Inklusif Dan Berkelanjutan (Tinjauan Yuridis Normatif Dalam Analisis Peluang Dan Tantangan)." *Jurnal Ilmu Hukum, Humaniora Dan Politik*. doi: 10.38035/jihhp.v5i6.5721.
- Nelson, Heidi D., Blair G. Darney, Katherine Ahrens, Amanda Burgess, Rebecca M. Jungbauer, Amy Cantor, Chandler Atchison, Karen B. Eden, Rose Goueth, and Rongwei Fu. 2022. "Associations of Unintended Pregnancy With Maternal and Infant Health Outcomes." *JAMA*. doi:

- 
- 10.1001/jama.2022.19097.
- Nguyen, Vinh-Kim. 2006. *Culture, HIV & AIDS: An Annotated Bibliography*. Brooklyn.
- Rachmawati, Sesty, Hanni Prihhastuti-Puspitasari, and Elida Zairina. 2019. "The Implementation of a Chronic Disease Management Program (Prolanis) in Indonesia: A Literature Review." *Journal of Basic and Clinical Physiology and Pharmacology* 30(6). doi: 10.1515/jbcpp-2019-0350.
- Ramlakhan, Karishma P., Mark R. Johnson, and Jolien W. Roos-Hesselink. 2020. "Pregnancy and Cardiovascular Disease." *Nature Reviews Cardiology* 17(11):718–31. doi: 10.1038/s41569-020-0390-z.
- Secor, R. Mimi, and Iris Stendig-Raskin. 2023. *Medical Eligibility Criteria for Contraceptive Use*.
- Simmons, Kiersten, Carrie Llewellyn, Stephen Bremner, Yvonne Gilleece, Claire Norcross, and Collins Iwuji. 2024. "The Barriers and Enablers to Accessing Sexual Health and Sexual Well-Being Services for Midlife Women (Aged 40–65 Years) in High-Income Countries: A Mixed-Methods Systematic Review." *Women's Health*.
- The DHS Program. 2024. "Indonesia ; Standar Program 2023-2024." *The DHS Program Demographic and Health*. Retrieved January 29, 2026 (<https://dhsprogram.com/methodology/survey/survey-display-605.cfm>).
- Väisänen, Heini, and Ewa Batyra. 2022. "Unintended Pregnancy Resolution among Parous Women in Twelve Low- and Middle-Income Countries." *Journal of Biosocial Science* 54(4):698–724. doi: 10.1017/S0021932021000225.
- West, S., H. Lashen, A. Bloigu, S. Franks, K. Puukka, A. Ruokonen, M. R. Järvelin, J. S. Tapanainen, and L. Morin-Papunen. 2014. "Irregular Menstruation and Hyperandrogenaemia in Adolescence Are Associated with Polycystic Ovary Syndrome and Infertility in Later Life: Northern Finland Birth Cohort 1986 Study." *Human Reproduction*. doi: 10.1093/humrep/deu200.
- Woods, Nancy Fugate, Ellen Sullivan Mitchell, Nina Coslov, and Marcie K. Richardson. 2021. "Transitioning to the Menopausal Transition: A Scoping Review of Research on the Late Reproductive Stage in Reproductive Aging." *Menopause*.
- World Health Organization (WHO). 2013. "WHO Traditional Medicine Strategy 2014-2023." *World Health Organization (WHO)*. doi: 2013.