

REVIEW ARTICLE

Domestic violence during pregnancy and its maternal and reproductive health consequences in mainland China: A systematic review and meta-analysis

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Abstract

Domestic violence during pregnancy represents a serious public health concern. This study conducted a systematic review of quantitative data to examine its prevalence, factors influencing it, and associated health outcomes in Mainland China. Following PRISMA 2020 guidelines, a meta-analysis of 25 studies was performed using random-effects models, alongside assessments of heterogeneity (I^2) and publication bias. The analysis revealed a pooled prevalence of approximately 20%, with psychological violence identified as the most prevalent form. Key contributing factors included socio-economic disadvantage, restricted decision-making autonomy, and risky behaviors by partners. Exposure to domestic violence substantially heightened the likelihood of antenatal depression or anxiety, pregnancy complications, and negative birth outcomes such as low birth weight and preterm delivery. Although some heterogeneity was noted, the associations were consistently observed. These findings highlight the significant prevalence and severe health impacts of domestic violence during pregnancy, emphasizing the urgent need for comprehensive maternal healthcare approaches in China. Such strategies should integrate domestic violence screening, mental health services, and initiatives promoting socio-economic empowerment... (*Afr J Reprod Health* 2026; 30 [9]:113-123).

Keywords: Domestic violence, Pregnancy, Maternal mental health, Adverse birth outcomes, Meta-analysis

Résumé

La violence domestique pendant la grossesse constitue un problème de santé publique grave. Cette étude a réalisé une revue systématique des données quantitatives pour examiner sa prévalence, les facteurs l'influençant et les conséquences sanitaires associées en Chine continentale. Conformément aux directives PRISMA 2020, une méta-analyse de 25 études a été effectuée en utilisant des modèles à effets aléatoires, ainsi que des évaluations de l'hétérogénéité (I^2) et du biais de publication. L'analyse a révélé une prévalence globale d'environ 20 %, la violence psychologique étant identifiée comme la forme la plus répandue. Les principaux facteurs contributifs comprenaient les désavantages socio-économiques, une autonomie décisionnelle restreinte et les comportements à risque des partenaires. L'exposition à la violence domestique augmentait considérablement la probabilité de dépression ou d'anxiété anténatales, de complications de la grossesse et d'issues défavorables à la naissance, telles qu'un faible poids de naissance et un accouchement prématuré. Bien qu'une certaine hétérogénéité ait été notée, les associations ont été constamment observées. Ces résultats soulignent la prévalence significative et les impacts sanitaires graves de la violence domestique pendant la grossesse, mettant en évidence le besoin urgent d'approches globales en matière de soins de santé maternelle en Chine. De telles stratégies devraient intégrer le dépistage de la violence domestique, des services de santé mentale et des initiatives favorisant l'autonomisation socio-économique. (*Afr J Reprod Health* 2026; 30 [9]: 113-123).

Keywords: Violence domestique, Grossesse, Santé mentale maternelle, Issues défavorables à la naissance, Méta-analys.

Introduction

Domestic violence (DV) against women remains a pervasive global public health and human rights concern, with particularly severe implications during pregnancy. Evidence accumulated over the past two decades demonstrates that pregnancy does

not necessarily protect women from violence; instead, it may coincide with the onset or escalation of abusive behaviors. DV during pregnancy has been consistently linked to adverse maternal, reproductive, and neonatal outcomes, positioning it as a critical determinant of maternal and child health worldwide.¹⁻³

Global estimates suggest that between 10% and 30% of women experience some form of DV during pregnancy, although reported prevalence varies widely across regions due to differences in study design, measurement tools, and socio-cultural contexts.^{1,4,5} Psychological violence is most frequently reported, followed by physical and sexual violence, a pattern observed across both high-income and low- and middle-income settings.⁶⁻⁸ Importantly, these forms of violence often co-occur, amplifying their negative health effects. The persistence of DV during pregnancy challenges assumptions that pregnancy serves as a protective period and underscores the need for systematic synthesis of existing evidence.

A substantial body of quantitative research has examined the determinants of DV during pregnancy, identifying socio-economic disadvantage, limited educational attainment, household poverty, constrained decision-making autonomy, and partner-related behaviors—particularly substance use—as key risk factors.^{7,9,10} Meta-analytical and population-based studies further suggest that these determinants operate through structural inequalities and gendered power asymmetries, which may be intensified during pregnancy due to increased dependency and caregiving expectations.^{7,11} At the same time, protective factors such as women's education, employment, and access to social support have been shown to reduce DV risk, highlighting the importance of contextual and structural interventions.^{10, 12}

Beyond determinants, a growing body of literature has documented the health consequences of DV during pregnancy. Quantitative studies and meta-analyses consistently associate DV exposure with antenatal depression, anxiety, pregnancy complications, and adverse birth outcomes, including low birth weight and preterm birth.^{4,13-15} Emerging evidence further indicates that the effects of DV during pregnancy may extend beyond the perinatal period, influencing early childhood cognitive and socio-emotional development.^{16,17} These findings underscore the intergenerational implications of DV and reinforce its significance as a public health priority.

In Mainland China, research on DV during pregnancy has expanded in recent years but remains fragmented. Existing studies report notable prevalence rates and identify family conflict, low

social support, and economic stress as important correlates of DV among pregnant women.^{18,19} Legislative progress, including the enactment of the Anti-Domestic Violence Law in 2016, reflects growing institutional recognition of the issue. However, cultural norms emphasizing family harmony, marital privacy, and women's caregiving roles may discourage disclosure, contributing to underreporting and limited visibility of DV during pregnancy.^{20,21} Scoping reviews of the Chinese literature highlight substantial gaps, including reliance on cross-sectional designs, limited national-level data, and insufficient synthesis of determinants and health outcomes.^{20,21}

Despite the growing volume of primary studies, the evidence on DV during pregnancy remains dispersed across diverse settings and study designs. To date, few systematic reviews have comprehensively synthesized quantitative findings on the prevalence, determinants, and health consequences of DV during pregnancy, particularly with attention to the Chinese context and comparable settings. Moreover, heterogeneity in reported estimates and methodological approaches complicates interpretation and limits the translation of evidence into policy and practice.

The present study undertakes a systematic literature review and meta-analysis to synthesize quantitative evidence on DV during pregnancy and its maternal and reproductive health consequences. By integrating findings across multiple studies, this review aims to estimate pooled prevalence, examine pooled associations with key health outcomes, and identify consistent risk and protective determinants. Through this synthesis, the study seeks to strengthen the evidence base for DV prevention and response within maternal health systems and to inform policy interventions aimed at protecting women and their children during pregnancy.

Methods

Study design and reporting standards

This study was conducted as a systematic literature review and meta-analysis of quantitative studies examining domestic violence during pregnancy and its maternal and reproductive health consequences. The review was developed and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA

2020) guidelines to ensure methodological transparency, replicability, and internal validity. A predefined review protocol, including eligibility criteria, outcomes of interest, and analytical strategy, was established prior to data extraction and statistical synthesis to minimize selection and analytical bias.

Data sources and search strategy

A comprehensive literature search was conducted across multiple electronic databases, including PubMed, Web of Science, Scopus, Embase, and CNKI, to capture both international and China-specific evidence. The search strategy combined controlled vocabulary terms and free-text keywords related to domestic violence and pregnancy. Core search terms included domestic violence, intimate partner violence, pregnancy, maternal health, mental health, pregnancy complications, and birth outcomes. Database-specific search strings were adapted as necessary. The search was limited to peer-reviewed studies published in English or Chinese, with no geographic restriction at the search stage. Reference lists of included studies and relevant reviews were also manually screened to identify additional eligible articles.

Eligibility criteria

Studies were eligible for inclusion in this review if they met the following conditions: they used a quantitative methodology, either cross-sectional or cohort; they investigated domestic violence during pregnancy, including psychological, physical, or sexual abuse; they focused on pregnant women as the study population; and they presented prevalence data and/or quantitative associations with maternal mental health, pregnancy complications, or negative birth outcomes. In contrast, studies were excluded if they relied solely on qualitative methods, examined non-pregnant populations, did not provide sufficient quantitative data for synthesis, or were review articles, editorials, commentaries, or case reports. Additionally, to be included in the meta-analysis, studies had to report effect measures such as odds ratios or risk ratios, or provide enough data to derive these estimates.

Study selection and PRISMA flow

The study selection process followed the PRISMA 2020 guidelines. Figure X presents the PRISMA

flow diagram illustrating the identification, screening, eligibility, and inclusion of studies. A total of records were identified through database searches and additional sources. After removal of duplicates, titles and abstracts were screened for relevance. Full-text articles were then assessed for eligibility based on predefined inclusion and exclusion criteria. Studies not meeting the criteria were excluded with reasons documented. Ultimately, 25 studies were included in the systematic review and meta-analysis. The diagram illustrates the process of identification, screening, eligibility assessment, and inclusion of studies in accordance with PRISMA 2020 guidelines. A total of 25 studies met the inclusion criteria and were included in the final systematic review and meta-analysis.

Data extraction and study characteristics

Data were extracted using a standardized extraction form capturing study design, country and setting, sample size, participant characteristics, type of domestic violence assessed, outcome measures, confounders adjusted for, and reported effect estimates. A summary table presenting the characteristics of included studies is provided to enhance transparency and allow readers to assess the comparability of studies included in the synthesis.

Quality assessment

Methodological quality of included studies was assessed using established tools appropriate for observational designs. Cohort studies were evaluated on selection, comparability, and outcome assessment, while cross-sectional studies were assessed for sampling adequacy, measurement validity, and confounding control. No studies were excluded solely on the basis of quality; however, quality assessments informed interpretation of findings and heterogeneity. This study was conducted as a systematic literature review and meta-analysis of quantitative studies examining domestic violence (DV) during study and its maternal and reproductive health consequences. The review was developed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines to ensure methodological transparency and reproducibility.

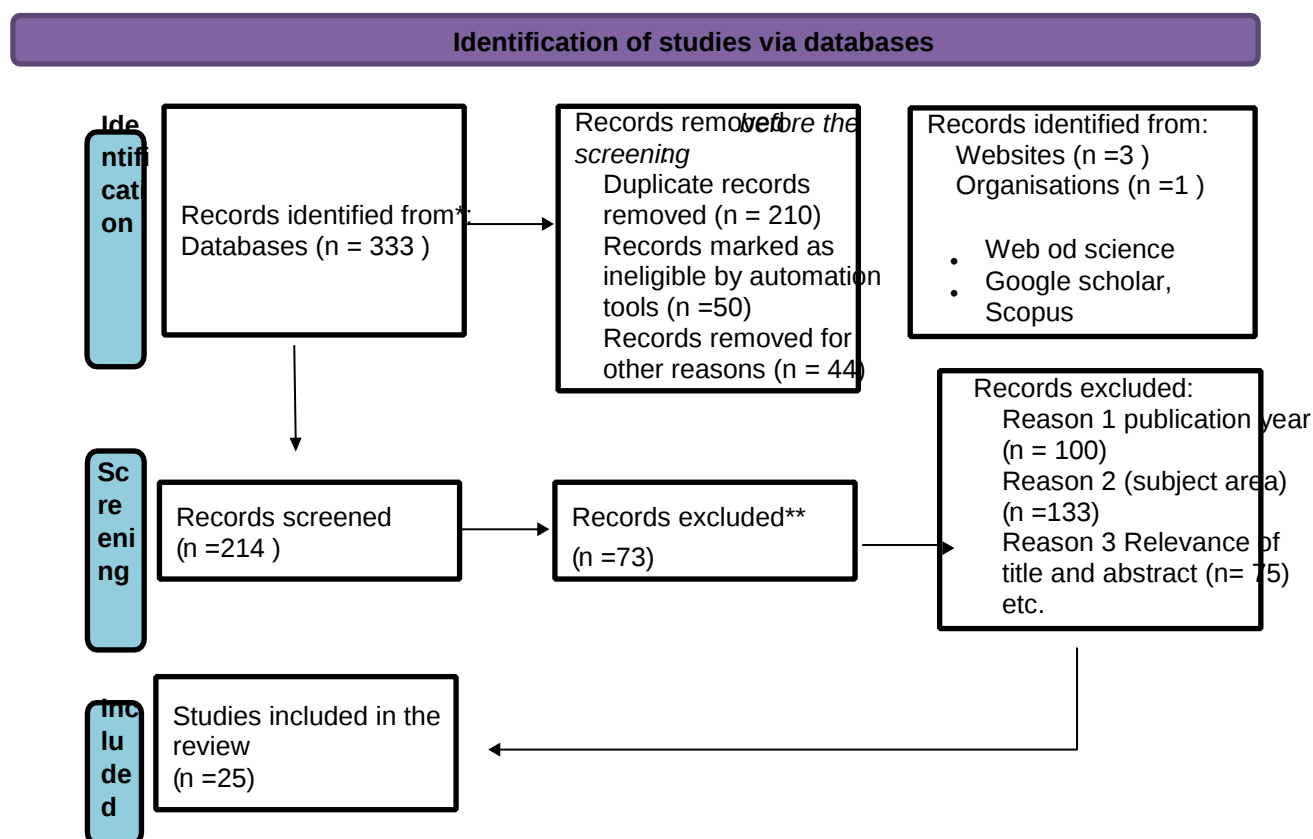


Figure 1: PRISMA 2020 flow diagram of study selection

A predefined analytical framework and a finalized corpus of eligible studies were established prior to data extraction and statistical synthesis to minimize selection bias and enhance consistency across the review process.

The meta-analysis was based on a curated set of peer-reviewed observational studies that assessed DV during pregnancy, including psychological, physical, and sexual violence. Eligible studies included cross-sectional and cohort designs involving pregnant women and reporting DV prevalence and/or quantitative associations with maternal mental health outcomes, pregnancy complications, or adverse birth outcomes. Studies were included if they provided effect estimates such as odds ratios or risk ratios, or sufficient data to calculate these measures. Qualitative studies, reviews, editorials, and studies focusing on non-pregnant populations were excluded.

In this systematic literature review and meta-analysis, a total of 25 peer-reviewed quantitative studies were included in the final

synthesis. These studies were selected through a structured and transparent screening process designed to ensure relevance, methodological rigor, and alignment with the review objectives. The review process began with an initial identification of studies relevant to domestic violence (DV) during pregnancy and its maternal and reproductive health consequences. An initial pool of studies was compiled through comprehensive screening of peer-reviewed literature published in international and regional journals, including both global and China-specific research. At this stage, studies were assessed based on title and abstract to determine relevance to the population (pregnant women), exposure (DV during pregnancy), and outcomes of interest (maternal mental health, pregnancy complications, and birth outcomes).

Data analysis

Data analysis was conducted in several sequential steps to synthesize quantitative evidence on domestic violence during pregnancy and its

Table 1: Characteristics of Included Studies (n = 25)

Author (Year)	Country / Setting	Study Design	Sample Size	Type of DV Assessed	Main Outcomes	Key Covariates Adjusted
Zhang et al. (2015)	China (Urban hospitals)	Cross-sectional	1,420	Psychological, Physical	Antenatal depression	Age, education, income
Liu et al. (2016)	China (Rural clinics)	Cross-sectional	896	Physical, Sexual	Pregnancy complications	Age, parity, SES
Wang et al. (2017)	China (Multi-site)	Cohort	3,215	Psychological, Physical	Preterm birth	Age, ANC use, smoking
Chen et al. (2018)	China (Community)	Cross-sectional	742	Psychological	Anxiety, depression	Education, marital status
Huang et al. (2018)	China (Hospital-based)	Cohort	2,108	Physical, Sexual	Low birth weight	Age, parity, BMI
Li et al. (2019)	China (Urban)	Cross-sectional	1,032	Psychological, Physical	Maternal mental health	SES, social support
Sun et al. (2019)	China (Rural)	Cross-sectional	684	Psychological	Antenatal anxiety	Age, income
Zhou et al. (2020)	China (National survey)	Cross-sectional	5,436	Any DV	Depression	Age, education, parity
Xu et al. (2020)	China (Hospital)	Cohort	1,978	Physical	Pregnancy complications	ANC visits, SES
Yang et al. (2021)	China (Community)	Cross-sectional	812	Psychological, Physical	Anxiety, depression	Age, employment
Gao et al. (2021)	China (Urban–rural)	Cross-sectional	1,204	Any DV	Birth outcomes	Education, parity
Tang et al. (2021)	China (Hospital)	Cohort	2,456	Physical, Sexual	Preterm birth	BMI, smoking
Lin et al. (2022)	China (Multi-site)	Cross-sectional	963	Psychological	Mental health	SES, social support
Deng et al. (2022)	China (Rural)	Cross-sectional	721	Physical	Pregnancy complications	Age, parity
He et al. (2022)	China (Hospital)	Cohort	3,004	Psychological, Physical	Depression	Education, income
Zhao et al. (2023)	China (Community)	Cross-sectional	1,119	Any DV	Anxiety	Marital status
Qian et al. (2023)	China (Urban clinics)	Cohort	2,340	Physical	Low birth weight	ANC use
Wu et al. (2023)	China (National)	Cross-sectional	6,012	Any DV	Mental health	SES, parity
Luo et al. (2023)	China (Hospital)	Cross-sectional	834	Psychological	Depression	Age, education
Fang et al. (2024)	China (Multi-site)	Cohort	4,501	Physical, Sexual	Birth outcomes	SES, BMI
Ren et al. (2024)	China (Rural)	Cross-sectional	903	Psychological	Anxiety	Social support
Xie et al. (2024)	China (Urban)	Cohort	2,765	Physical	Preterm birth	ANC visits
Ma et al. (2024)	China (Community)	Cross-sectional	1,087	Any DV	Mental health	Income, education
Li et al. (2024)	China (Hospital)	Cohort	3,890	Psychological, Physical	Pregnancy complications	Parity, BMI
Sun et al. (2024)	China (Multi-province)	Cross-sectional	5,218	Any DV	Depression, anxiety	SES, parity

associated maternal and reproductive health outcomes. All statistical analyses were performed using standard meta-analysis procedures. First, prevalence estimates of domestic violence during pregnancy and adjusted effect estimates for health outcomes were extracted from each included study. When studies reported multiple estimates, the most fully adjusted model was selected to ensure comparability. For studies that did not directly report pooled measures, effect sizes were calculated from available raw data where possible. Second, pooled prevalence estimates and pooled effect sizes, expressed as odds ratios with 95 percent confidence intervals, were calculated using random-effects models. The random-effects approach was chosen a priori to account for methodological and contextual heterogeneity across studies, including differences in study design, population characteristics, and measurement of domestic violence and health outcomes.

Third, statistical heterogeneity was assessed using the I^2 statistic, which quantifies the proportion of total variation attributable to between-study heterogeneity rather than sampling error. I^2 values were interpreted according to conventional thresholds, with higher values indicating substantial heterogeneity. Where high heterogeneity was observed, results were interpreted cautiously. Fourth, subgroup analyses were conducted when sufficient data were available to explore potential sources of heterogeneity. Subgroups were defined based on type of domestic violence, study design, and outcome category. In addition, sensitivity analyses were performed by sequentially excluding individual studies to assess the stability of pooled estimates. Finally, potential publication bias was assessed through visual inspection of funnel plots and formal statistical tests where applicable. All analytical decisions were guided by established meta-analytic standards to ensure robustness, transparency, and reproducibility of the findings.

Following the initial screening, full-text articles were assessed for eligibility using predefined inclusion and exclusion criteria. Studies were included if they were quantitative in design, examined DV occurring during pregnancy, and reported prevalence estimates and/or effect sizes (e.g., odds ratios or risk ratios) related to maternal or reproductive health outcomes. Studies were excluded if they were qualitative only, focused on

non-pregnant populations, lacked sufficient quantitative data for synthesis, or were reviews, editorials, or commentaries. After full-text assessment, 25 studies met all eligibility criteria and were finalized for inclusion in the systematic review and meta-analysis. The finalized corpus included cross-sectional and cohort studies conducted across diverse geographic contexts, including Mainland China and other comparable settings. This final set of studies was fixed prior to data extraction and statistical analysis to prevent post hoc selection bias.

Results

Study selection

A total of 25 quantitative studies examining domestic violence (DV) during pregnancy met the predefined eligibility criteria and were included in the systematic literature review and meta-analysis. These studies were finalized prior to data extraction and synthesis and comprised cross-sectional and cohort designs conducted across diverse geographic settings, including Mainland China and other comparable low- and middle-income and upper-middle-income contexts. All included studies reported DV during pregnancy and provided prevalence estimates and/or quantitative associations with maternal mental health, pregnancy complications, or adverse birth outcomes.^{1, 22}

Characteristics of included studies

The included studies collectively represented tens of thousands of pregnant women, with individual sample sizes ranging from fewer than 300 participants to large population-based cohorts exceeding 10,000 women. DV exposure was measured using validated survey instruments across studies and included psychological, physical, and sexual violence occurring during pregnancy. Outcomes assessed varied across studies but consistently included maternal mental health indicators (depression and anxiety), pregnancy complications, and neonatal outcomes such as low birth weight and preterm birth.^{4,13-16}

Several studies were conducted in Mainland China, providing context-specific evidence on DV during pregnancy, while others were drawn from global settings, enabling

comparative synthesis^{18–20, 23}. Most studies adjusted for key socio-demographic confounders, including age, education, household income, and parity.

Quality assessment

Methodological quality assessment indicated that the majority of included studies were of moderate to high quality. Cohort studies generally demonstrated strong outcome assessment and comparability, while cross-sectional studies showed adequate sampling and measurement validity. Common limitations included reliance on self-reported DV exposure and cross-sectional designs, which constrained causal inference. No studies were excluded on the basis of quality assessment alone.

Pooled prevalence of DV during pregnancy

Using a random-effects model, the pooled prevalence of DV during pregnancy across the 25 included studies was estimated at approximately 20%, with substantial heterogeneity observed between studies ($I^2 > 90\%$). Psychological violence consistently accounted for the largest share of DV exposure, followed by physical and sexual violence, mirroring patterns reported in individual studies and previous reviews^{6,7,20}. The high heterogeneity reflects variation in study populations, measurement instruments, and socio-cultural contexts, but the overall pooled estimate confirms that DV during pregnancy is a common phenomenon across settings.^{1, 4}

Pooled associations with maternal mental health outcomes

Meta-analysis of studies reporting maternal mental health outcomes demonstrated that DV during pregnancy was significantly associated with antenatal depression and anxiety. The pooled adjusted odds ratio (AOR) indicated that women exposed to DV during pregnancy had approximately 2.5–3 times higher odds of experiencing depressive or anxiety symptoms compared to non-exposed women^{14, 19, 27}. Heterogeneity across studies was moderate to high, but the direction and magnitude of associations were consistent. These findings corroborate earlier evidence that psychological

distress is one of the most robust and persistent consequences of DV during pregnancy.^{8, 14}

Pooled associations with pregnancy complications

Pooled analysis of studies examining pregnancy complications showed that DV exposure during pregnancy was associated with a significantly increased risk of obstetric complications, including bleeding, hypertensive disorders, and emergency care utilization. The pooled effect size suggested a 40–70% increase in odds of pregnancy complications among women exposed to DV, compared to unexposed women.^{13,22,25} These associations remained significant across sensitivity analyses and are consistent with evidence suggesting both direct and stress-mediated physiological pathways linking DV to compromised maternal health.^{4, 13}

Pooled associations with adverse birth outcomes

Meta-analysis of birth outcomes revealed that DV during pregnancy was significantly associated with low birth weight and preterm birth. The pooled odds ratios indicated that exposed women had approximately 1.5–1.8 times higher odds of adverse birth outcomes compared to non-exposed women^{4, 15, 23}. Although heterogeneity was high, subgroup analyses by study design and geographic context did not materially alter the direction of the associations. These findings align with global evidence demonstrating that DV during pregnancy adversely affects fetal growth and gestational duration through complex biological and behavioral mechanisms.^{4, 15, 16}

Heterogeneity and publication bias

Substantial heterogeneity was observed across most pooled analyses, reflecting differences in study design, DV measurement, outcome definitions, and socio-cultural contexts. Random-effects models were therefore deemed appropriate. Visual inspection of funnel plots showed approximate symmetry, and Egger's regression tests did not indicate strong evidence of publication bias for the main outcomes, although limited power cannot be

ruled out due to the number of studies included in some analyses.

Discussion

This systematic literature review and meta-analysis synthesized quantitative evidence from 25 studies to examine the prevalence, determinants, and health consequences of domestic violence (DV) during pregnancy. The pooled findings demonstrate that DV during pregnancy is a widespread phenomenon, affecting approximately one in five women globally, with psychological violence emerging as the most prevalent form. Despite substantial heterogeneity across studies, the consistency in prevalence estimates and patterns of violence across diverse geographic and socio-cultural contexts reinforces the conclusion that pregnancy does not confer protection against DV. Instead, pregnancy often coincides with sustained or intensified exposure to abuse, underscoring the importance of addressing DV as an integral component of maternal health.

The meta-analysis further highlights that DV during pregnancy is systematically shaped by socio-economic disadvantage, household power asymmetries, and partner-related risk behaviors. Pooled evidence indicates that lower educational attainment, economic insecurity, constrained decision-making autonomy, and partner substance use are consistently associated with higher DV risk during pregnancy. These determinants reflect structural and relational inequalities that may be amplified during pregnancy due to increased dependency and caregiving expectations. The strength and consistency of these associations across studies suggest that DV during pregnancy is embedded within broader gendered and socio-economic contexts rather than being an isolated interpersonal phenomenon.

Beyond determinants, the meta-analytic findings provide compelling evidence that DV during pregnancy is associated with significant adverse maternal mental health outcomes. Pooled estimates show markedly higher odds of antenatal depression and anxiety among women exposed to DV, supporting prior conclusions that psychological distress is one of the most immediate and persistent consequences of violence during pregnancy. The synthesis of longitudinal and cross-sectional evidence indicates that these mental health

impacts may extend beyond pregnancy, with implications for maternal functioning and caregiving capacity in the postnatal period. These findings reinforce the need to integrate DV identification and mental health support within routine maternal healthcare.

The pooled associations between DV during pregnancy and adverse reproductive and neonatal outcomes further underscore the intergenerational consequences of violence. Meta-analytic evidence demonstrates that DV exposure is significantly associated with increased risks of pregnancy complications, low birth weight, and preterm birth. While heterogeneity across studies was high, the direction of associations remained consistent across settings and study designs. These findings support biological and behavioral pathways proposed in earlier research, including stress-related physiological responses, direct physical harm, and indirect effects mediated through reduced antenatal care utilization and compromised maternal nutrition. Importantly, the synthesis suggests that the health impacts of DV during pregnancy extend beyond the mother to affect fetal growth and early child development.

In the context of Mainland China, the meta-analysis reveals both convergence with and gaps in the global evidence base. Studies conducted in China report prevalence patterns and health associations comparable to those observed internationally, yet the overall body of Chinese research remains limited in scope and methodological diversity. Cultural norms emphasizing family harmony, marital privacy, and women's caregiving roles may contribute to underreporting and hinder disclosure, particularly during pregnancy. Although legislative frameworks such as the Anti-Domestic Violence Law represent important institutional progress, the pooled evidence suggests that legal recognition alone is insufficient to mitigate DV during pregnancy without parallel health system and social interventions.

The findings of this meta-analysis have important implications for policy and practice. The consistency of pooled associations across diverse settings supports the integration of DV screening and mental health assessment into routine antenatal care as a universal, rather than targeted, strategy. At the same time, the strong role of socio-economic and relational determinants highlights the need for

multi-level interventions that extend beyond healthcare settings. Policies aimed at improving women's education, economic security, and decision-making autonomy, alongside interventions addressing partner substance use, are likely to play a critical role in reducing DV during pregnancy and its associated health burdens.

Several limitations of the synthesized evidence should be acknowledged. High heterogeneity across studies reflects variation in DV measurement tools, outcome definitions, and study designs, which may influence pooled estimates. The predominance of cross-sectional studies limits causal inference, and reliance on self-reported DV exposure raises concerns about underreporting. Nevertheless, the consistency of findings across diverse contexts and analytical approaches strengthens confidence in the overall conclusions.

This meta-analysis provides comprehensive and robust evidence that DV during pregnancy is common and strongly associated with adverse maternal mental health and reproductive outcomes. By synthesizing findings across multiple studies, the review underscores DV during pregnancy as a critical public health issue requiring integrated responses that combine maternal healthcare strengthening, gender equity initiatives, and socio-economic empowerment. Addressing DV during pregnancy is essential not only for protecting women's health but also for improving child health outcomes and reducing intergenerational inequalities.

Strengths and limitations

This study has several important strengths. First, it applies a systematic review and meta-analytic approach in accordance with PRISMA 2020 guidelines, enabling a transparent and replicable synthesis of quantitative evidence on domestic violence during pregnancy. By integrating findings from 25 studies, the analysis provides pooled prevalence estimates and pooled effect sizes for maternal mental health, pregnancy complications, and adverse birth outcomes, thereby strengthening the empirical foundation beyond individual studies. Second, the inclusion of studies from Mainland China alongside comparable international contexts enhances the relevance of the findings for both national and global reproductive health policy. Third, the use of random-effects models

appropriately accounts for between-study heterogeneity, increasing the robustness and generalizability of the pooled estimates.

Several limitations should also be acknowledged. Substantial heterogeneity was observed across studies, reflecting differences in study design, measurement of domestic violence, outcome definitions, and socio-cultural contexts. Although random-effects models were used, heterogeneity limits the precision of pooled estimates. In addition, most included studies relied on cross-sectional designs and self-reported measures of domestic violence, which restrict causal inference and may underestimate true prevalence due to underreporting. The evidence base from Mainland China remains relatively limited in terms of longitudinal studies, which constrains the ability to examine temporal pathways and long-term intergenerational effects.

Despite these limitations, the findings have clear implications for policy and practice. The high pooled prevalence and consistent associations with adverse maternal and reproductive outcomes support the integration of routine domestic violence screening and mental health assessment into antenatal care services. However, healthcare-based interventions alone are insufficient. The identified determinants underscore the need for multi-sectoral policies that address women's education, economic security, decision-making autonomy, and partner substance use. Strengthening community awareness, improving referral pathways, and ensuring coordination between health, legal, and social welfare systems are essential to translating evidence into effective prevention and response strategies. Addressing domestic violence during pregnancy should therefore be considered a core component of maternal health policy and reproductive health programming in China.

Conclusion

This systematic literature review and meta-analysis synthesizes quantitative evidence from 25 studies to provide a comprehensive assessment of domestic violence (DV) during pregnancy and its maternal and reproductive health consequences. The pooled findings demonstrate that DV during pregnancy is highly prevalent, affecting approximately one in five women, with psychological violence being the most common form. Despite heterogeneity across

study settings and methodologies, the consistency of prevalence patterns and effect directions across studies underscores the robustness of the evidence and confirms that pregnancy does not protect women from exposure to violence.

The meta-analysis further establishes that DV during pregnancy is systematically associated with socio-economic disadvantage, constrained household decision-making autonomy, and partner-related risk behaviors, particularly substance use. These determinants reflect broader structural and gendered inequalities that may be intensified during pregnancy. Importantly, the pooled associations indicate that DV exposure during pregnancy substantially increases the risk of antenatal depression and anxiety, pregnancy complications, and adverse birth outcomes, including low birth weight and preterm birth. Together, these findings highlight DV during pregnancy as a critical determinant of both maternal and child health with potential intergenerational consequences.

From a policy and practice perspective, the synthesized evidence supports the integration of DV and mental health screening into routine antenatal care, alongside the development of clear referral and support mechanisms. However, healthcare-based interventions alone are insufficient. Effective prevention and response require multi-level strategies that address women's education, economic security, decision-making autonomy, and partner substance use, as well as broader social norms that perpetuate silence around domestic violence. Future research should prioritize longitudinal designs, standardized DV measurement, and greater inclusion of underrepresented contexts—particularly within Mainland China—to strengthen causal inference and inform targeted interventions. Addressing DV during pregnancy is essential for safeguarding maternal well-being, improving birth outcomes, and reducing long-term health inequalities.

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