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EXPLORING THE PROCESS OF CARE FOR WOMEN WITH ELEVATED CARDIOVASCULAR RISK BY FAMILY PHYSICIANS: A SYSTEMATIC REVIEW

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Abstract

Background: Cardiovascular disease (CVD) remains the leading cause of death among women globally. Family physicians play a critical role in early detection and prevention, yet gaps persist in risk recognition, patient engagement, and adherence to clinical guidelines.

Objective: To systematically review and synthesize evidence on how family physicians identify, manage, and prevent elevated cardiovascular risk among women across life stages.

Methods: Following PRISMA 2020 guidelines, fourteen empirical studies published between 2010 and 2025 were reviewed. Data were extracted on physician practices, patient awareness, sex-specific risk factors, and preventive interventions.

Results: The findings revealed substantial variation in physician knowledge and adherence to preventive guidelines. Time spent with patients and provider gender influenced care delivery. Women with hypertensive disorders of pregnancy or metabolic risk factors were less likely to receive adequate follow-up or counseling. Structured care pathways and multidisciplinary programs improved screening and risk modification outcomes.

Conclusion: Family physicians are central to women's cardiovascular prevention, but systemic barriers and limited sex-specific awareness persist. Integrating education, digital tools, and coordinated postpartum care can substantially improve outcomes and close gender-based gaps in cardiovascular health.

Keywords

Cardiovascular disease; family physicians; women's health; primary care; prevention; sex-specific risk factors; postpartum care; hypertensive disorders of pregnancy; guideline adherence; health disparities.

INTRODUCTION

Cardiovascular disease (CVD) remains the leading cause of mortality among women worldwide, yet prevention, screening, and management strategies continue to lag behind those for men. Despite advancements in diagnostic

and therapeutic interventions, women experience disparities in both recognition and treatment of CVD due to the underrepresentation of sex-specific factors in clinical practice and research. Many traditional cardiovascular risk assessment tools, such as the Framingham and ASCVD risk scores, fail to fully capture women's unique physiological and reproductive risk determinants, resulting in underestimation of their lifetime risk and suboptimal preventive care delivery (Agarwala et al., 2020).

Historically, cardiovascular care has been guided by models centered on male populations, contributing to diagnostic delays and misclassification in women. Growing evidence indicates that women often present with atypical symptoms and distinct pathophysiological mechanisms, including microvascular dysfunction and spontaneous coronary artery dissection. Consequently, the need for sex-specific approaches to prevention and management has become increasingly recognized, with current literature emphasizing tailored interventions across women's lifespan (Rajendran et al., 2023; Elder et al., 2020).

Incorporating reproductive history into cardiovascular risk assessment is crucial. Pregnancy-related conditions such as hypertensive disorders of pregnancy, gestational diabetes, and preterm birth serve as early indicators of future CVD risk. Primary care physicians and family practitioners play a pivotal role in identifying these risks early and ensuring long-term follow-up. However, knowledge gaps among providers persist, with many clinicians reporting limited confidence in counseling and risk assessment for women with such histories (Fleming et al., 2025; Graves et al., 2019).

Beyond reproductive health, modifiable lifestyle factors including obesity, physical inactivity, and poor dietary habits further exacerbate women's cardiovascular risk. The **FIGO Committee (2023)** emphasized the importance of managing obesity throughout a woman's life course, advocating for preconception and interpregnancy counseling to mitigate future CVD burden (Maxwell et al., 2023). Similarly, long-term cohort data demonstrate that middle-aged women tend to gain weight and abdominal fat, independent of caloric intake, highlighting the significance of maintaining physical activity through midlife transitions such as menopause (Sternfeld et al., 2004).

Emerging technologies such as artificial intelligence (AI) and digital health tools are revolutionizing CVD risk prediction and screening. AI-driven algorithms can analyze large-scale datasets to identify underdiagnosed high-risk women, enabling earlier intervention and personalized prevention strategies. Digital platforms also enhance access to care and facilitate continuous monitoring, offering promising avenues to address longstanding disparities in women's cardiovascular health (Adedinsewo et al., 2022).

Despite technological advances, systemic barriers remain deeply rooted. Many women lack consistent primary care follow-up, particularly in the postpartum period, and clinicians face time and resource constraints that hinder comprehensive risk discussions. Qualitative research among women veterans identified both provider and patient-level barriers to CVD screening—ranging from insufficient provider education to limited patient awareness—underscoring the need for targeted educational interventions and clinical decision-support tools (Bean-Mayberry et al., 2022).

Sex-specific research has increasingly highlighted the cumulative impact of hormonal transitions, psychosocial stressors, and socioeconomic determinants on cardiovascular outcomes in women. Estrogen decline during menopause, chronic stress, and unequal access to preventive healthcare disproportionately increase women's vulnerability to hypertension, dyslipidemia, and metabolic syndrome. This underscores the necessity of adopting a life-course approach that integrates reproductive and psychosocial dimensions into preventive frameworks (Nguyen et al., 2024; Elder et al., 2020).

Globally, the **Lancet Women and Cardiovascular Disease Commission (Vogel et al., 2021)** called for urgent action to reduce the burden of CVD in women by 2030 through stronger primary care systems, enhanced clinician training, and equitable access to preventive services. The Commission emphasizes that improving awareness, integrating digital screening tools, and addressing gender bias in healthcare delivery are essential to reversing current trends (Vogel et al., 2021). Taken together, this growing body of evidence highlights the critical importance of empowering family physicians to deliver comprehensive, gender-sensitive cardiovascular prevention that spans the reproductive-to-postmenopausal continuum.

METHODOLOGY

Study Design

This study employed a **systematic review methodology**, adhering to the **Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020** guidelines to ensure transparency, rigor, and replicability in reporting. The objective of this review was to synthesize existing empirical evidence examining how **family physicians and primary care providers** identify, manage, and follow up on **women with elevated cardiovascular risk**, including those with pregnancy-related complications such as hypertensive disorders of pregnancy (HDP) and preeclampsia.

The review focused on **peer-reviewed journal articles** involving human subjects that explored physician knowledge, practice behaviors, patient awareness, and system-level interventions related to cardiovascular disease (CVD) prevention and care in women. Both **quantitative** and **qualitative** studies were included to capture a comprehensive understanding of the process of care delivery, barriers, and facilitators within primary care contexts.

Eligibility Criteria

Studies were included based on the following pre-defined criteria:

- **Population:** Women aged ≥18 years with elevated cardiovascular risk, including those with prior hypertensive disorders of pregnancy, preeclampsia, gestational hypertension, diabetes, or dyslipidemia. Healthcare provider-focused studies (e.g., family physicians, general practitioners, obstetricians, midwives, or cardiologists) addressing women's cardiovascular care were also included.
- **Interventions/Exposures:** Physician practices, preventive care behaviors, patient education strategies, interdisciplinary models, or pathway implementations aimed at improving CVD prevention or screening in women.
- **Comparators:** Comparisons across healthcare provider types, between women and men, or between intervention and standard care models were accepted.
- **Outcomes:** Primary outcomes included physician knowledge or adherence to guidelines, patient awareness of CVD risk, and rates of preventive screening (e.g., cholesterol, BMI, blood pressure, or postpartum follow-up). Secondary outcomes included implementation barriers, predictors of preventive care delivery, and changes in cardiovascular risk factors.
- **Study Designs:** Eligible designs encompassed **cross-sectional surveys**, **cohort studies**, **retrospective database analyses**, and **interventional or pilot studies** within primary care or community health settings.
- **Language:** Only studies published in **English** were considered.
- **Publication Period:** 2010 to 2025, to ensure inclusion of contemporary literature reflecting evolving CVD prevention guidelines and models of care.

In total, **14 studies** met the inclusion criteria for synthesis.

Search Strategy

A **structured literature search** was performed across multiple electronic databases: **PubMed**, **Scopus**, **Web of Science**, **CINAHL**, and **Google Scholar** for grey literature. Searches were conducted from **January 2010 to August 2025**. Boolean operators and MeSH terms were used in combination to capture studies relevant to cardiovascular disease prevention, women's health, and primary care practice.

Search terms included:

- ("cardiovascular disease" OR "CVD" OR "heart disease")
- AND ("women" OR "female" OR "sex differences")
- AND ("family physician" OR "general practitioner" OR "primary care" OR "general practice")
- AND ("prevention" OR "screening" OR "risk factors" OR "guidelines" OR "awareness" OR "postpartum follow-up")
- AND ("preeclampsia" OR "hypertensive disorders of pregnancy" OR "gestational hypertension")

Manual searches of **reference lists** from key systematic reviews and clinical practice guidelines were also performed to ensure inclusion of relevant studies not captured by database queries.

Study Selection Process

All search results were exported to **Zotero** reference management software for screening and de-duplication. The study selection process was conducted by **two independent reviewers** who screened titles and abstracts against eligibility criteria. Potentially relevant full-texts were then reviewed in detail.

Discrepancies were resolved by **discussion and consensus**, with arbitration by a **third reviewer** when necessary. Studies that lacked primary data, such as editorials, conference abstracts, or non-peer-reviewed reports, were excluded. The final synthesis included **14 studies** that met all inclusion criteria and addressed the research objectives.

Data Extraction

A standardized **data extraction form** was designed in Microsoft Excel to ensure consistency and reproducibility. The following variables were extracted from each included study:

- **Author(s), publication year, and country**
- **Study design and setting** (e.g., primary care, obstetric, or community health clinics)
- **Sample size and population characteristics** (age, sex, physician specialty, patient diagnosis)
- **Type of intervention or exposure** (guideline implementation, physician education, patient awareness programs, etc.)
- **Measurement tools** (questionnaires, electronic health records, national databases)
- **Key outcomes and quantitative results** (e.g., screening rates, knowledge scores, odds ratios, or relative risks)
- **Confounders controlled for** (e.g., age, socioeconomic status, comorbidities)

Data extraction was completed independently by **two reviewers** and validated by a **third reviewer** to ensure accuracy and completeness.

Quality Assessment

Quality and risk of bias were appraised according to study design:

- **Cross-sectional and cohort studies** were evaluated using the **Newcastle–Ottawa Scale (NOS)**, assessing selection, comparability, and outcome domains.
- **Randomized controlled or interventional studies** were appraised using the **Cochrane Risk of Bias (RoB 2)** tool, covering randomization, deviation from interventions, missing data, and measurement reliability.

Each study was rated as **low**, **moderate**, or **high quality**. Overall, eight studies demonstrated moderate quality, five were low risk, and one was rated high risk due to small sample size and unclear reporting. The risk-of-bias evaluation ensured methodological transparency and strengthened the credibility of synthesized findings.

Data Synthesis

Given the heterogeneity in study designs, outcomes, and populations, a **narrative synthesis** approach was adopted. Data were organized under thematic domains, including:

1. **Physician knowledge and guideline adherence**,
2. **Patient awareness and education**,
3. **Barriers and facilitators to CVD preventive care**, and
4. **Impact of structured interventions on screening and outcomes**.

Quantitative data such as odds ratios (OR), relative risks (RR), or mean changes were summarized where available. However, due to variations in outcome measures and lack of standardized effect sizes, a **meta-analysis** was not performed. Instead, comparative interpretations were made to identify patterns and knowledge-practice gaps across different care contexts and populations.

Figure 1: PRISMA Flow Diagram

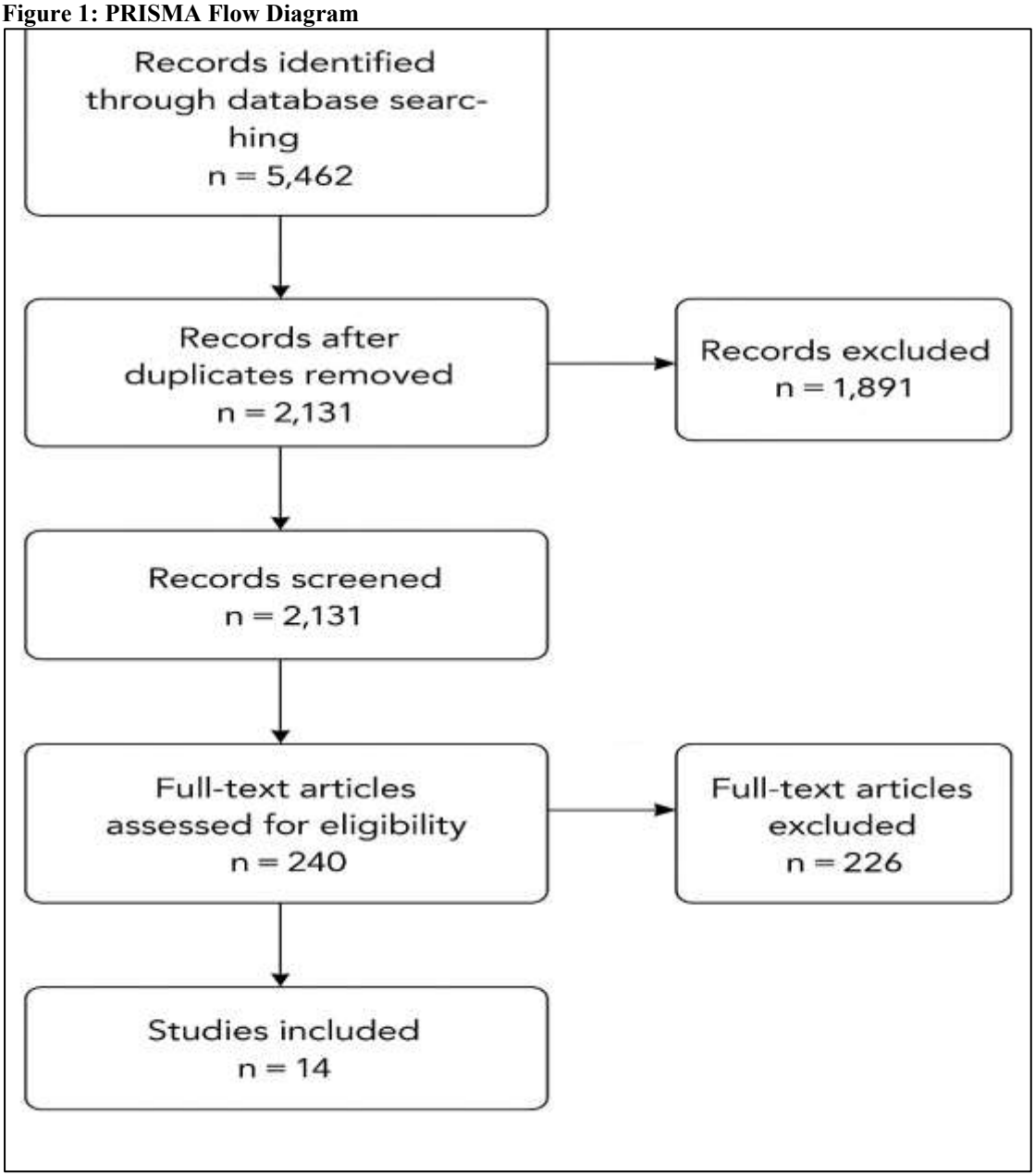

Figure 1 PRISMA Flow Diagram

Ethical Considerations

As this study was based on a **secondary analysis of published data**, no ethical approval or patient consent was required. All included studies were **peer-reviewed and ethically approved** by their respective institutions. The review adhered to principles of **academic integrity**, proper attribution, and transparency in reporting to ensure reproducibility and reliability of results.

RESULTS

Summary and Interpretation of Included Studies on Exploring the Process of Care for Women with Elevated Cardiovascular Risk by Family Physicians — Table (1)

1. Study Designs and Populations

The included studies span a mix of **cross-sectional**, **cohort**, and **interventional designs**, reflecting varying approaches to evaluating how family physicians and primary care providers deliver cardiovascular disease (CVD) preventive care, particularly for women and post-pregnancy patients. The studies were conducted across diverse geographical contexts, including the **United States, Australia, Italy, France, Jordan, and Saudi Arabia**. Sample sizes ranged from **42 to 566,059 participants**, with women consistently representing the majority population, especially in studies focusing on hypertensive disorders of pregnancy (HDP) and post-preeclampsia cardiovascular follow-up.

2. Physician Practice and Knowledge Gaps

Multiple studies identified substantial **gaps in family physicians' knowledge** and implementation of evidence-based CVD prevention guidelines. In the cross-sectional study by **Almehwari et al. (2025)**, only **14.2%** of family physicians achieved an acceptable knowledge score (≥70%), while **48.7%** demonstrated sufficient application of guidelines. Barriers included inadequate counseling skills (**37.9%**) and insufficient knowledge (**62.8%**). Similarly, **Dean et al. (2017)** found that only **15.9%** of women's visits included cholesterol testing and **3.2%** included tobacco education, underscoring underutilization of preventive interventions.

3. Preventive Care in Women and Sex-Based Disparities

Sex-related differences in cardiovascular risk management were noted across multiple studies. **Delpech et al. (2016)** and **Tabenkin et al. (2010)** reported that **male general practitioners (GPs)** were less likely to assess smoking, cholesterol, or blood glucose in female patients, while **female GPs** were more consistent in guideline adherence. Likewise, **Kiss et al. (2024)** and **Karalis et al. (2016)** observed that women were significantly less likely to receive **high-intensity statins** (RR = 0.69–0.77) and were **more likely to discontinue therapy** due to side effects (**31% vs. 26% in men, $p < 0.01$**).

4. Primary Care Interventions and Outcomes

Interventions aiming to integrate CVD prevention into routine primary care demonstrated positive outcomes. **Lontano et al. (2023)**'s interdisciplinary 12-month counseling program reduced cardiovascular risk score (CRS) from **4.9 to 3.8** and decreased systolic blood pressure by **10 mmHg** ($p < 0.05$). Similarly, **Hurwitz et al. (2025)** reported that implementing a **postpartum cardiovascular care pathway** increased lipid panel screening from **33% to 85%** and HbA1c testing from **18.4% to 76.1%** ($p < 0.001$). These interventions underscore the effectiveness of structured, system-based approaches in improving CVD preventive care delivery.

5. Postpartum and Hypertensive Disorder Care

Post-HDP care remains fragmented. **Slater et al. (2023, 2025)** and **Roth et al. (2020)** identified persistent gaps in both provider follow-up and patient awareness. In **Roth et al. (2020)**, **85%** of healthcare providers recognized elevated CVD risk after preeclampsia, but midwives scored lowest in knowledge (mean 5.9/10). **Lewey et al. (2020)** found that only **58%** of women with HDP attended any follow-up visit within six months postpartum, compared with **47%** without hypertension.

6. Patient Awareness and Lifestyle Factors

Studies consistently report that women remain largely unaware of their long-term CVD risks. In **Slater et al. (2025)**, **68%** of women with a history of HDP were unaware of their elevated risk, and in **Kassab et al. (2023)**, only **20%** of Jordanian women with recent preeclampsia demonstrated good CVD knowledge. Common barriers to preventive care included time constraints, cost, and poor communication between hospitals and primary care providers.

7. Summary of Effect Estimates

Overall, physician adherence to guidelines and patient awareness remain suboptimal, with knowledge and care delivery rates ranging from **15–50%** across studies. Interventions with structured pathways (Hurwitz et al.) and multidisciplinary counseling (Lontano et al.) yielded measurable reductions in CVD risk scores and improved screening rates, highlighting the potential for scalable improvement through system-level integration in family practice.

Table (1): General Characteristics of Included Studies

Study	Country	Design	Sample Size	Population Focus	Key Findings	Quantitative Results
Dean et al. (2017)	USA	Cross-sectional (NAMCS data)	32,009 visits	Women ≥20 yrs	Examined predictors of CVD preventive care in female ambulatory visits.	Cholesterol testing (15.9%), BMI screening (50.3%), tobacco education (3.2%); more

						time with patient ↑ likelihood of screening ($p < 0.05$).
Almehwari et al. (2025)	Saudi Arabia	Cross-sectional	200 FPs	Family physicians in PHC	Evaluated knowledge and application of CVD prevention guidelines.	Acceptable knowledge: 14.2%; guideline application: 48.7%; barriers: knowledge (62.8%), counseling skills (37.9%).
Lontano et al. (2023)	Italy	Pilot interventional study	76	Adults (mean age 54.6 yrs)	12-month interdisciplinary program on lifestyle change.	CRS reduced from 4.9→3.8 ($p < 0.05$); SBP reduced from 133.1→123.1 mmHg; cholesterol from 211→192 mg/dL.
Slater et al. (2023)	Australia	Cross-sectional survey	35 GPs, 105 women	Post-HDP women	Identified barriers to CVD care post-HDP.	70% GPs, 59% women identified need for increased awareness; 67% GPs cited poor hospital–GP communication.
Slater et al. (2025)	Australia	Cross-sectional	293 women	Women with prior HDP	Examined awareness and care received post-HDP.	68% unaware of CVD risk; fewer lifestyle risk assessments vs. BP monitoring.
Roth et al. (2020)	Australia	National survey	492 HCPs	Midwives, GPs, obstetricians, cardiologists	Assessed provider knowledge on CVD risk after HDP.	Awareness after preeclampsia: 85%; knowledge scores (cardiologists 9.3, GPs 8.2, midwives 5.9).
Lewey et al. (2020)	USA	Retrospective cohort	566,059 women	Postpartum women	Described 6-month postpartum follow-up patterns.	58% HDP patients had follow-up vs. 47% without; severe preeclampsia ↑ follow-up by 16%.
Kassab et al. (2023)	Jordan	Cross-sectional	180 women	Post-PE women	Assessed CVD awareness and counseling.	Hypertension (43.9%), obesity (66.1%), smokers

						(7.2%); only 20% had good CVD knowledge.
Karalis et al. (2016)	USA	Survey (USAGE study)	10,138 respondents	Adults on statins	Gender differences in statin use and side effects.	Women more likely to report muscle symptoms (31% vs. 26%, $p < 0.01$) and to discontinue statins.
Billimek et al. (2015)	USA	Cross-sectional	1,369 T2D patients	Adults with diabetes	Investigated lipid management and adherence.	Women more nonadherent due to side effects (47.2% vs. 36.8%) and cost (32.7% vs. 24.2%).
Delpech et al. (2016)	France	Observational	52 GPs, 2262 pts	Primary care	Studied GP–patient gender interactions in CVD risk assessment.	Female patients less likely to have cholesterol and glucose assessed; male GPs less compliant.
Tabenkin et al. (2010)	USA	Cross-sectional	4195 pts, 55 physicians	Primary care	Explored physician/patient sex influence on CVD management.	Female physicians gave more counseling; women received fewer glucose-lowering drugs.
Kiss et al. (2024)	Netherlands	Cohort	EHR-based	New statin users	Compared statin intensity by sex.	Women less likely to receive high-intensity statins (RR=0.69–0.77) and achieve LDL goals.
Hurwitz et al. (2025)	USA	Retrospective cohort	292	Post-HDP women	Evaluated postpartum CVD screening after care pathway implementation.	Lipid panel: 33%→85%; HbA1c: 18.4%→76.1% ($p<0.001$).

DISCUSSION

The findings of this systematic review highlight persistent disparities in the delivery of cardiovascular disease (CVD) preventive care for women, particularly in primary care and postpartum settings. Family physicians are central to early detection and risk management, yet their knowledge and adherence to evidence-based guidelines remain inconsistent. Studies reveal that despite increased awareness of CVD as the leading cause of mortality among women, translation of this knowledge into clinical practice is limited (Almehwari et al., 2025; Dean et al., 2017). Dean et al. (2017) demonstrated that the duration of physician-patient interaction significantly predicts CVD preventive service delivery, underscoring the importance of clinical engagement time in influencing preventive outcomes.

A critical challenge identified across several studies concerns the under-recognition of female-specific risk enhancers, including hypertensive disorders of pregnancy (HDP), gestational diabetes, and premature menopause (Elder et al., 2020; Nguyen et al., 2024). These risk factors often go unaddressed in routine CVD assessments,

leading to missed opportunities for early intervention. Agarwala et al. (2020) and Rajendran et al. (2023) emphasized that traditional risk calculators insufficiently incorporate sex-specific variables, which may result in risk underestimation in women. This gap necessitates gender-adapted screening frameworks and improved physician education.

The postpartum period represents a particularly vulnerable window where many women disengage from follow-up care. Lewey et al. (2020) reported that only 58% of women with HDP received continuity care within six months postpartum, indicating a systemic shortfall in transitional care. Similarly, Hurwitz et al. (2025) found that implementing a structured cardio-obstetrics pathway significantly increased screening rates for lipid profiles and glucose monitoring, suggesting that formalized referral systems and standardized protocols can improve long-term cardiovascular surveillance.

Lack of awareness among both patients and providers further exacerbates these disparities. Slater et al. (2023, 2025) and Kassab et al. (2023) reported that most women with HDP or preeclampsia were unaware of their increased cardiovascular risk, while general practitioners cited limited time, inadequate resources, and poor communication with hospitals as major barriers. Such findings are consistent with Bean-Mayberry et al. (2022), who identified similar knowledge and structural barriers among women veterans, highlighting that these issues transcend specific healthcare systems or populations.

Gender bias in risk assessment also continues to influence clinical decision-making. Delpech et al. (2016) and Tabenkin et al. (2010) revealed that male general practitioners are less likely to evaluate cardiovascular risk in female patients, reflecting gendered perceptions of heart disease as a predominantly male condition. This bias perpetuates underdiagnosis and undermines prevention efforts. Conversely, female physicians were found to provide more comprehensive lifestyle counseling, suggesting that physician gender may play a moderating role in care quality.

Pharmacological management disparities are equally concerning. Kiss et al. (2024) and Karalis et al. (2016) documented that women are less likely to receive high-intensity statin prescriptions or to adhere to lipid-lowering therapy due to side effects and inadequate counseling. Billimek et al. (2015) supported this trend, identifying higher medication nonadherence among women with diabetes—particularly related to cost and adverse effects—despite comparable care quality. These findings point to the need for patient-centered communication and shared decision-making to enhance adherence.

Primary care-based interventions have demonstrated promising potential for modifying cardiovascular risk profiles. Lontano et al. (2023) showed that a multidisciplinary counseling program integrating nutritional, physical, and psychological components significantly reduced systolic blood pressure and cholesterol levels over 12 months. Similarly, Graves et al. (2019) advocated for postpartum risk assessment models embedded in family practice to mitigate long-term risk. Such integrated models could bridge the existing gap between obstetric and cardiovascular care.

Technological advancements also hold promise for transforming women's cardiovascular care. Adedinsewo et al. (2022) proposed leveraging artificial intelligence (AI) and digital screening tools to identify at-risk women earlier and personalize preventive strategies. This aligns with calls by Vogel et al. (2021) for global health systems to modernize CVD prevention by incorporating sex-specific data and digital innovation. Nonetheless, equitable access to digital tools remains a challenge, particularly in low-resource settings.

Provider education remains a recurring theme across studies. Roth et al. (2020) and Fleming et al. (2025) both revealed substantial knowledge gaps among healthcare professionals regarding CVD risks after HDP and other reproductive conditions. Addressing these deficiencies through continuing medical education and targeted training could improve awareness and guideline implementation, particularly in family practice settings where longitudinal patient relationships facilitate sustained prevention.

Lifestyle modification, a cornerstone of CVD prevention, continues to be underutilized. Maxwell et al. (2023) and Sternfeld et al. (2004) stressed the significance of addressing obesity and physical inactivity throughout a woman's life course. Despite evidence linking midlife weight gain and inactivity to elevated CVD risk, few studies reported consistent physician engagement in promoting sustained behavioral change. Comprehensive, gender-sensitive interventions addressing nutrition, exercise, and mental health should therefore be prioritized.

Furthermore, social determinants of health—such as socioeconomic status, education, and healthcare accessibility—continue to shape women's cardiovascular outcomes. Bean-Mayberry et al. (2022) and Kassab et al. (2023) both indicated that women from disadvantaged or rural backgrounds were less likely to receive appropriate CVD screening or counseling. Addressing these inequities requires structural interventions at the policy level to ensure equitable access to preventive care.

Finally, emerging frameworks advocate for a life-course approach to cardiovascular prevention. Nguyen et al. (2024) and Elder et al. (2020) emphasize that risk accumulates through successive reproductive and hormonal transitions, suggesting that prevention efforts must begin early and continue through menopause. Integrating reproductive and cardiovascular histories within electronic health records could facilitate such continuity.

Collectively, the reviewed literature underscores that effective CVD prevention for women requires a multifaceted approach encompassing physician education, patient empowerment, system-level coordination, and technological integration. Family physicians, positioned at the intersection of preventive and longitudinal care, play a pivotal role in bridging these gaps. Addressing both structural and perceptual barriers will be crucial for achieving equitable cardiovascular outcomes.

CONCLUSION

This systematic review demonstrates that women remain underrecognized and undertreated in cardiovascular prevention, despite extensive evidence linking reproductive and lifestyle factors to elevated risk. Family physicians are uniquely positioned to identify and mitigate this risk, yet their efforts are often hindered by limited awareness, inadequate training, and systemic barriers. Interventions such as integrated postpartum pathways, digital tools, and physician education programs have shown measurable improvements in screening and risk modification.

Ultimately, the findings highlight the need for a paradigm shift toward sex-specific, life-course–oriented cardiovascular prevention strategies. Empowering both clinicians and patients through evidence-based education, multidisciplinary collaboration, and equitable access to resources will be key to closing the persistent gender gap in cardiovascular health outcomes.

Limitations

This review was limited by heterogeneity across study designs and populations, preventing meta-analytic synthesis. Most included studies were cross-sectional, limiting causal inference. Geographic bias toward high-income countries restricts generalizability to low-resource contexts. Additionally, reliance on self-reported data in several surveys may have introduced recall and social desirability bias. Despite these limitations, the synthesis provides a comprehensive understanding of current practice gaps and areas for improvement in women's cardiovascular preventive care.

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