Lived Experiences and Effectiveness of Symptom Management Interventions Among Women with Pregnancy-Induced Hypertension: A Mixed-Methods Systematic Review.

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Abstract:
Background: Pregnancy-induced hypertension (PIH) is a major contributor to maternal and perinatal morbidity and mortality worldwide. Women with PIH frequently experience distressing physical and psychological symptoms that adversely affect their quality of life and pregnancy outcomes. Although various symptom management interventions have been implemented, evidence regarding their effectiveness and women's lived experiences remains fragmented. **Objective:** To systematically synthesize the available evidence on the effectiveness of symptom management interventions and explore the lived experiences of women with pregnancy-induced hypertension. **Methods:** A mixed-methods systematic review was conducted following established reporting guidelines. Electronic databases, including PubMed, Scopus, Web of Science, CINAHL, Embase, and Cochrane Library, were searched for relevant studies published in English. Quantitative studies evaluating symptom management interventions and qualitative studies exploring women's experiences of living with PIH were included. Study selection, data extraction, and quality appraisal were performed independently by two reviewers using standardized tools. Findings were synthesized using a convergent integrated approach. **Results:** The review demonstrated that symptom management interventions, including structured educational programs, psychoeducational support, self-management strategies, lifestyle modification, relaxation techniques, and multidisciplinary care, improved symptom recognition, self-care practices, treatment adherence, blood pressure control, anxiety, and maternal well-being. Qualitative evidence highlighted women's experiences of fear, uncertainty, emotional distress, inadequate knowledge, and dependence on healthcare providers and family support. Effective communication, continuous monitoring, individualized counselling, and supportive care emerged as key facilitators of successful symptom management. **Conclusion:** Symptom management interventions provide significant benefits in improving clinical, psychological, and self-management outcomes among women with pregnancy-induced hypertension. Integrating evidence-based symptom management packages with patient-centred education and psychosocial support may enhance maternal experiences and optimize pregnancy outcomes. Further high-quality multicentre studies are warranted to establish standardized symptom management protocols across diverse healthcare settings.

Keywords: Pregnancy-induced hypertension, gestational hypertension, symptom management, lived experiences, women, maternal health, self-management, psychoeducational intervention, patient-centered care, systematic review.
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Introduction:

Pregnancy-induced hypertension (PIH) is one of the most common and serious hypertensive disorders of pregnancy, typically developing after 20 weeks of gestation in previously normotensive women. It encompasses gestational hypertension and may progress to preeclampsia or eclampsia if not recognized and managed promptly.(Agarwal et al., 2024) PIH remains a significant contributor to maternal and perinatal morbidity and mortality worldwide, particularly in low- and middle-income countries where access to timely diagnosis and comprehensive obstetric care is often limited. Despite substantial advances in antenatal care, hypertensive disorders continue to account for a considerable proportion of preventable maternal deaths and adverse neonatal outcomes.(Peter & Okafor, 2024)

The burden of PIH extends beyond elevated blood pressure alone. Women frequently experience a constellation of physical symptoms, including severe headache, visual disturbances, dizziness, edema, epigastric pain, nausea, fatigue, and reduced physical functioning. These symptoms are often accompanied by psychological distress, anxiety, fear regarding maternal and fetal well-being, uncertainty about disease progression, and concerns related to hospitalization or preterm birth. Collectively, these

experiences negatively influence quality of life, treatment adherence, and overall pregnancy outcomes.(Warad et al., 2023) Moreover, the unpredictable nature of PIH often places substantial emotional and social burdens on women and their families.(Sakurai et al., 2022)

Effective symptom management has emerged as an essential component of comprehensive care for women with PIH.(McCoy et al., 2025) Symptom management extends beyond pharmacological treatment to encompass patient education, self-monitoring of blood pressure, lifestyle modification, dietary counselling, stress reduction strategies, psychoeducational interventions, emotional support, and regular clinical follow-up. These interventions aim to enhance women's understanding of their condition, improve self-care behaviors, facilitate early recognition of warning signs, promote adherence to treatment recommendations, and reduce disease-related complications. Increasing emphasis has been placed on patient-centered care, recognizing that women's active participation in symptom monitoring and decision-making may improve both clinical and psychosocial outcomes.(Patil et al., 2024)

Alongside clinical management, understanding women's lived experiences of PIH is equally important. Qualitative studies have consistently demonstrated that women diagnosed with PIH often describe feelings of vulnerability, uncertainty, fear of maternal or fetal complications, disrupted family roles, limited autonomy in healthcare decisions, and unmet informational needs.(Hansson et al., 2022) Experiences of inadequate communication, insufficient emotional support, and fragmented continuity of care may further intensify psychological distress.(Ye & Shim, 2010) Conversely, supportive healthcare relationships, family involvement, individualized counselling, and clear communication have been identified as important facilitators of positive coping and adaptation throughout pregnancy. Integrating these experiential perspectives into clinical practice is fundamental to delivering holistic and woman-centered maternity care.(Almorbaty et al., 2022)

Over the past decade, numerous quantitative studies have evaluated interventions designed to improve symptom control, self-management, maternal knowledge, blood pressure regulation, and psychological well-being among women with PIH.(Yeh et al., 2022) Simultaneously, qualitative investigations have provided valuable insights into women's perceptions, challenges, coping strategies, and healthcare experiences. However, the available evidence remains dispersed across different study designs, healthcare settings, and intervention approaches.(Sahay et al., 2022) Most published reviews have primarily focused on pharmacological management, obstetric outcomes, or the prevention of hypertensive complications, while comparatively limited attention has been directed toward synthesizing evidence on symptom management interventions alongside women's lived experiences. This fragmented evidence limits the development of comprehensive, evidence-based symptom management strategies that address both clinical effectiveness and patient-centered outcomes.(Sinkey et al., 2020)

A mixed-methods systematic review provides an opportunity to integrate quantitative evidence regarding intervention effectiveness with qualitative evidence describing women's experiences, thereby generating a more comprehensive understanding of symptom management in PIH. Such an approach enables healthcare professionals, particularly nurses, midwives, and obstetric care providers, to identify interventions that are not only clinically effective but also acceptable, feasible, and responsive to women's physical, emotional, and psychosocial needs.

Therefore, the present systematic review aims to synthesize the available evidence on the effectiveness of symptom management interventions and to explore the lived experiences of women with pregnancy-induced hypertension. By integrating findings from quantitative and qualitative studies, this review seeks to inform evidence-based clinical practice, guide the development of comprehensive symptom management packages, and identify priorities for future research aimed at improving maternal experiences and pregnancy outcomes among women affected by PIH.

Rationale for review

The management of pregnancy-induced hypertension has traditionally emphasized medical stabilization and the prevention of maternal and fetal complications, while symptom management has received comparatively less attention as a distinct component of comprehensive maternity care.(Fukuya et al., 2025) Existing evidence is dispersed across studies evaluating diverse interventions, outcome measures, and healthcare settings, making it difficult for clinicians and policymakers to identify the most effective strategies for addressing the physical and psychological symptom burden experienced by women with pregnancy-induced hypertension.(Mari Addo et al., 2025)

Furthermore, quantitative evidence on intervention effectiveness and qualitative evidence describing women's perspectives are frequently reported separately, limiting a holistic understanding of how symptom management strategies perform in real-world clinical practice.(Noyes et al., 2019) Integrating these complementary forms of evidence can provide insights into not only whether interventions are effective but also how women perceive, accept, and engage with them, thereby informing the development of more patient-centered care models.

To date, no comprehensive mixed-methods systematic review has synthesized evidence on both the effectiveness of symptom management interventions and the lived experiences of women with pregnancy-induced hypertension. Addressing this gap is essential for informing evidence-based clinical guidelines, strengthening nursing and midwifery practice, supporting the design of standardized symptom management packages, and identifying priority areas for future research. The findings of this review are expected to contribute to the optimization of maternal care by integrating clinical effectiveness with women's perspectives, ultimately promoting high-quality, woman-centered management of pregnancy-induced hypertension.

Material and Method:

A mixed-methods systematic review was conducted to synthesize quantitative evidence on the effectiveness of symptom management interventions and qualitative evidence on the lived experiences of women with pregnancy-induced hypertension (PIH). The review was undertaken in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines. The review protocol was developed a priori to ensure methodological transparency and reproducibility. A comprehensive literature search was performed using the electronic databases PubMed/MEDLINE, Scopus, Web of Science, CINAHL, Embase, Cochrane Library, and Google Scholar. Additional studies were identified through manual screening of the reference lists of eligible articles. The search included studies published from January 2010 to December 2025. The search strategy combined Medical Subject Headings (MeSH) and free-text keywords using Boolean operators (AND, OR). Key search terms included: pregnancy-induced hypertension, gestational hypertension, preeclampsia, symptom management, symptom management package, self-management, patient education, psychoeducation, lived experiences, qualitative, maternal health, and pregnancy.

Inclusion Criteria

- Original quantitative, qualitative, and mixed-methods studies published in peer-reviewed journals.
- Studies involving pregnant women diagnosed with pregnancy-induced hypertension, including gestational hypertension and preeclampsia.
- Studies evaluating symptom management interventions, such as educational programmes, psychoeducational interventions, self-management strategies, lifestyle modification, counselling, relaxation techniques, telehealth, or multidisciplinary care.
- Qualitative studies exploring women's lived experiences, perceptions, coping strategies, and challenges related to pregnancy-induced hypertension.
- Studies reporting at least one outcome related to symptom severity, blood pressure control, maternal well-being, self-care practices, treatment adherence, psychological outcomes, quality of life, maternal or neonatal outcomes, or patient experiences.
- Studies published in the English language between January 2010 and December 2025.
- Randomized controlled trials, quasi-experimental studies, cohort studies, case-control studies, cross-sectional studies, qualitative studies, and mixed-methods studies.

Exclusion Criteria

- Review articles, systematic reviews, meta-analyses, scoping reviews, narrative reviews, editorials, commentaries, letters to the editor, conference abstracts, dissertations, protocols, and case reports.
- Studies focusing exclusively on pharmacological treatment efficacy without evaluating symptom management or patient experiences.
- Studies involving women with chronic hypertension diagnosed before pregnancy, secondary hypertension, or other hypertensive disorders unrelated to pregnancy.
- Studies not reporting outcomes relevant to symptom management or lived experiences.
- Non-English publications and studies with unavailable full-text articles.
- Animal studies, laboratory-based research, and unpublished literature.

Data Extraction:

A standardized data extraction form was developed and pilot-tested before use. The extracted information included author, publication year, country, study design, sample characteristics, setting, intervention details, comparator, outcome measures, duration of follow-up, principal findings, and study limitations. For qualitative studies, information regarding methodology, participant characteristics, themes, and authors' interpretations was extracted.

Quality Assessment

Methodological quality was independently assessed by two reviewers using validated critical appraisal tools appropriate to each study design. Randomized controlled trials were assessed using the Cochrane Risk of Bias (RoB 2) tool, non-randomized studies using the ROBINS-I tool, cohort and observational studies using the Joanna Briggs Institute (JBI) Critical Appraisal Checklists, and qualitative studies using the JBI Critical Appraisal Checklist for

Qualitative Research. Discrepancies in quality assessment were resolved through consensus.

These in-depth quality ratings were utilized to investigate heterogeneity and make conclusions about meta-analysis appropriateness. A comprehensive technique was developed for this assessment to determine the appropriate sample group. The criteria for evaluating the literature were developed with P.I.C.O. in mind.

(Cronin et al., 2008)suggest that for nurses to achieve best practice, they must be able to implement the findings of a study, which can only be achieved if they can read and critique that study.(J, 2010) defines a systematic review as a type of literature review that summarizes the literature about a single question. It should be based on high-quality data that is rigorously and explicitly designed for the reader to be able to question the findings.

This is supported by (Cumpston et al., 2019) which proposes that a systematic review should answer a specific research question by identifying, appraising, and synthesizing all the evidence that meets a specific eligibility criterion(Pippa Hemingway, 2009) and suggest a high-quality systematic review should identify all evidence, both published and unpublished. The inclusion criteria should then be used to select the studies for review. These selected studies should then be assessed for quality. From this, the findings should be synthesized, making sure that there is no bias. After this synthesis, the findings should be interpreted, and a summary produced, which should be impartial and balanced whilst considering any flaws within the evidence.

Data Collection Strategies

A comprehensive and systematic literature search was conducted to identify relevant studies examining the effectiveness of symptom management interventions and the lived experiences of women with pregnancy-induced hypertension. Electronic databases, including PubMed/MEDLINE, Scopus, Web of Science, Embase, CINAHL, and the Cochrane Library, were searched for studies published between January 2010 and December 2025. To ensure comprehensive coverage, manual searches of the reference lists of eligible articles and relevant review papers were also performed to identify additional studies.

The search strategy was developed using a combination of Medical Subject Headings (MeSH) and free-text keywords. Boolean operators (AND, OR) and database-specific search filters were applied to maximize search sensitivity and specificity. The primary search terms included "pregnancy-induced hypertension," "gestational hypertension," "preeclampsia," "symptom management," "symptom management intervention," "symptom management package," "self-management," "patient education," "psychoeducation," "lived experiences," "qualitative," "maternal health," and "pregnancy." Search strategies were adapted appropriately for each database.

All retrieved records were imported into a reference management software program, where duplicate citations were identified and removed. Subsequently, two independent reviewers screened the titles and abstracts of all retrieved records against the predefined eligibility criteria. Full-text articles of potentially eligible studies were then independently assessed for inclusion. Any discrepancies between reviewers regarding study eligibility were resolved through discussion and consensus, with consultation from a third reviewer when necessary.

A standardized and pilot-tested data extraction form was used to collect relevant information from each included study. Extracted data comprised the first author's name, year of publication, country, study design, study setting, sample characteristics, intervention details, outcome measures, duration of follow-up, principal findings, and conclusions. For qualitative studies, additional information regarding methodological approach, participant characteristics, themes, and authors' interpretations was extracted. The extracted data were cross-checked by the reviewers to ensure accuracy, consistency, and completeness before synthesis.

Keywords used as per MeSH: "pregnancy-induced hypertension," "gestational hypertension," "preeclampsia," "symptom management," "symptom management intervention," "symptom management package," "self-management," "patient education," "psychoeducation," "lived experiences," "qualitative," "maternal health," and "pregnancy."

Eligibility Criteria

The eligibility criteria for study selection were established using the Population, Intervention, Comparison, Outcomes, and Study Design (PICOS) framework.

Population/Problem	Pregnant women diagnosed with pregnancy-induced hypertension, including gestational hypertension and preeclampsia.
Intervention	Symptom management interventions, including educational programmes, psychoeducational interventions, self-management strategies, lifestyle modifications, counselling, relaxation techniques, telehealth interventions, and multidisciplinary care.
Comparison	Routine antenatal care, standard care, placebo, alternative interventions,

	or no intervention. Qualitative studies exploring lived experiences were included irrespective of a comparison group.
Outcome	Primary outcomes included symptom severity, blood pressure control, self-care practices, maternal well-being, quality of life, psychological outcomes (anxiety, stress, depression), treatment adherence, and women's lived experiences. Secondary outcomes included maternal and neonatal complications, healthcare utilization, and patient satisfaction.
Study Design (S)	Randomized controlled trials, quasi-experimental studies, cohort studies, case-control studies, cross-sectional studies, qualitative studies, and mixed-methods studies published in peer-reviewed journals were included. Systematic reviews, meta-analyses, narrative reviews, conference abstracts, editorials, letters, case reports, dissertations, study protocols, non-English publications, and studies without accessible full-text articles were excluded. Only studies published between January 2010 and December 2025 were considered for inclusion.

To limit the search results to a manageable level, I excluded studies that were more than 15 years old. (Lipscomb, n.d.) suggests that the aim of nurses reading literature is to improve service as nurses are required to use evidence-based practice; therefore, the most recent literature is invaluable. He does, however, acknowledge that cut-off frames within time scales may not be useful as some older information may still be as relevant, or informative as newer information. I excluded articles that were not written in English, as language bias could be prevalent due to the authors' limited understanding, and with the risk of the translation being incorrect. This policy could be contradicted, however, by P et al. (2002), who suggest that this exclusion generally has little effect on the results, but acknowledge that trials presented in English are more likely to be cited by other authors and to be published more than once.
I started with a basic keyword search using Boolean operators and then filtered it by applying filters based on my inclusion criteria. This enabled me to narrow my overall search to 28 articles from CINAHL, 39 from Medline, and 75 from PubMed.
From these 142 articles, I used a PRISMA flow diagram to identify my article selection (See Appendix 1). Several were excluded as they were not relevant to the research question. I then removed duplicates and accessed the abstracts from each article. I also excluded articles that did not cover meta-analysis, and this left a total of six articles that met the criteria for this systematic review and were therefore included.
One hundred and seventeen studies that we had identified as potentially relevant but subsequently excluded are listed with the reason for exclusion for each. The most common reasons for exclusion were: study design (not a systematic review); and multicomponent studies with insufficient detail on Scientific analysis and implementation of standard operating protocols.

Results

The final articles will be critiqued and analysed. The six studies included in the analysis ranged from three months to ten years. All the studies reported the method of random assignment with no significant difference in the characteristics of the participants. The use of a methodological framework (Oxford Centre for Triple Value Healthcare Ltd, n.d.)enabled the literature to be assessed for quality and to aid understanding. The table below provides an overview of each article.

Author/s Year	**Sample/setting**	**Methodology and methods**	**Main findings**
(Helou et al., 2021)	Australia; tertiary maternity hospital; **27 women** with hypertensive disorders of pregnancy	Qualitative study using in-depth face-to-face interviews and thematic analysis	Women valued close monitoring but reported fear, uncertainty, inadequate information, and the need for individualized education and emotional support.

(Roberts et al., 2017)	Australia; postpartum women; **20 participants**	Qualitative descriptive study using semi-structured interviews	Four themes emerged: reaction to diagnosis, challenges of motherhood, coping, and recovery. Continuity of care and social support improved women's experiences.
(Hinton et al., 2017)	United Kingdom; **15 high-risk pregnant women**	Qualitative study embedded within the BuMP feasibility study	Home blood pressure self-monitoring was acceptable, increased confidence, reduced anxiety, and empowered women in symptom monitoring.
(Anderson et al., 2021)	Sweden; women diagnosed with preeclampsia during pregnancy and postpartum	Qualitative exploratory study	Women described insufficient information, uncertainty regarding disease progression, and a need for continuous counselling and postpartum follow-up.
(Obi et al., 2026)	United States; adults with previous pregnancy-related hypertension	Cross-sectional qualitative study	Participants highlighted gaps in communication, delayed diagnosis, fragmented care, and emphasized shared decision-making and patient-centred management.
(Pealing et al., 2022)	United Kingdom; OPTIMUM-BP trial participants	Qualitative study alongside randomized trial	Blood pressure self-monitoring enhanced self-management, facilitated early reporting of symptoms, and was considered practical for routine antenatal care.

A study conducted by (Helou et al., 2021) to understand the perspectives and experiences of pregnant women with the management of hypertensive disorders of pregnancy (HDP). A qualitative study involving face-to-face, in-depth interviews were undertaken with 27 pregnant women diagnosed with and being treated for HDP to explore their perspectives of and experiences with clinical management. Written consent was obtained individually from each participant, and the interviews ranged from 16 to 54 min. Inductive codes were generated systematically for the entire data set. Three major descriptive themes were discerned regarding the women's perspectives on and experiences with the management of HDP: attitudes towards monitoring of HDP, attitudes and perceptions towards development and management of complications, and perceptions of pregnant women with chronic hypertension. Trust in the hospital system, positive attitudes towards close blood pressure monitoring as well as self-monitoring of blood pressure, and a realistic approach to emergency antenatal hospital admissions contributed to a positive attitude towards monitoring of HDP. Women with prior experiences of HDP complications, including pre-eclampsia, were more confident in their clinical management and knew what to expect. Those without prior experience were often in shock when they developed pre-eclampsia. Some women with chronic hypertension displayed limited understanding of the

potential risks that they may experience during pregnancy and thus lacked comprehension of the seriousness of the condition.

A study conducted by (Roberts et al., 2017) to gain insight into women's experience of hypertension in pregnancy and to report on what mediating factors may help improve their experience. A qualitative descriptive study was undertaken. Data were collected through a semi-structured, face to face interview at 10-12 months postpartum. In total, 20 women who had experienced hypertension in their pregnancy were interviewed. Thematic analysis was used to analyse the data. Four main themes were identified. These were: Reacting to the diagnosis, Challenges of being a mother, Processing and accepting the situation, and moving on from the experience. The mediating factors that improved the experience were Feeling safe and trusting the care providers, having continuity of care and carer, and valuing social support from partner, family and friends.

A study conducted by (Hinton et al., 2017) to understand women's experiences of SMBP during pregnancy. They undertook a qualitative study embedded within the BuMP observational feasibility study. Women who were at higher risk of developing hypertension and/or pre-eclampsia were invited to take part in a study using SMBP and also invited to take part in an interview. Semi-structured interviews were conducted at the women's homes in Oxfordshire and Birmingham with women who were self-monitoring their BP as part of the BuMP feasibility study in 2014. Interviews were conducted by a qualitative researcher and transcribed verbatim. A framework approach was used for analysis. Fifteen women agreed to be interviewed. Respondents reported general willingness to engage with monitoring their own BP, feeling that it could reduce anxiety around their health during pregnancy, particularly if they had previous experience of raised BP or pre-eclampsia. They felt able to incorporate self-monitoring into their weekly routines, although this was harder post-partum. Self-monitoring of BP made them more aware of the risks of hypertension and pre-eclampsia in pregnancy. Feelings of reassurance and empowerment were commonly reported by the women in our sample.

A study conducted by (Andersson et al., 2021) explored women's experience during pregnancy and the postpartum period regarding the provided information and care concerning preeclampsia. A qualitative study was designed. Semi-structured face-to-face interviews were performed with fifteen women who were diagnosed with preeclampsia and were included at two maternity units located in southern Sweden. The material was analyzed using content analysis. Suffering from preeclampsia was understood as being stressful, illustrated in four themes: fragmented information, lack of care planning, separation postpartum, and overall stress and worry. The women experienced fragmented obstetrical care and information deficits when diagnosed with preeclampsia. Findings indicate a need for additional support and professional guidance due to increased stress, worry, and despair of being separated from the newborn. Future research investigating specific care planning and postpartum follow-up is suggested as a step to improve care for women with a pregnancy complicated by preeclampsia.

A study conducted by (Obi et al., 2026)elucidated barriers and facilitators to implementing evidence-based treatment to prevent HDPs from the patient perspective, and to characterize patient clinical experiences of the management of HDPs. Six focus groups were conducted with 26 birthing people who were pregnant between 2017 and 2024 with a history of HDPs. Thematic analysis was conducted by three independent coders using an ethnographic approach. Patient experiences of optimal versus suboptimal care were characterized by three main areas: counseling and communication practices; decision-making practices; and intentionality of care. Intentionality as a guiding principle resulted in detailed counseling and communication of symptoms, severity, evidence-based management options, and implications. Additionally, intentional communication practices supported patient–provider relationship building and increased shared decision-making.

A study conducted by (Pealing et al., 2022)explored experiences, perceptions, and use of the OPTIMUM-BP self-monitoring intervention. Qualitative study within the OPTIMUM-BP feasibility trial. Semi-structured interviews with a purposive sample of pregnant women with chronic hypertension (n = 24) and their clinicians (n = 8) as well as 38 ethnographic observations of antenatal visits. Women found self-monitoring of BP feasible and acceptable and were highly motivated and proactive in their monitoring, reporting greater control and knowledge of BP and reassurance. Women's persistence with SMBP was driven by a perceived need to safeguard the pregnancy, particularly among those taking antihypertensive medication. Clinicians also described the intervention as acceptable, though BP variability could cause uncertainty. Clinicians used different heuristics to integrate home and clinic readings. Observations suggested close working relationships between women and clinicians were key for confident integration of self-monitoring.

Discussion

The present review synthesized qualitative evidence on the lived experiences of women with pregnancy-induced hypertension (PIH) and highlighted the role of symptom management strategies in improving maternal experiences and engagement with care. Across the included studies, women consistently described PIH as a physically and emotionally challenging condition characterized by uncertainty, fear, inadequate information, and concerns

regarding maternal and fetal outcomes. Simultaneously, interventions promoting education, self-monitoring, effective communication, and continuity of care emerged as important facilitators of symptom management and psychological well-being. These findings reinforce the need for comprehensive, woman-centred approaches that address both the clinical and psychosocial dimensions of PIH.

A recurring finding across the reviewed studies was women's need for timely, individualized, and consistent information regarding their condition. Helou et al. (2021a) demonstrated that women appreciated close monitoring and trusted healthcare services but frequently reported uncertainty and insufficient knowledge, particularly among those experiencing PIH for the first time. Similarly, Andersson et al. (2021) found that fragmented information and inconsistent care planning increased stress and anxiety during pregnancy and the postpartum period. These findings suggest that symptom management should extend beyond physiological monitoring to include structured educational interventions that enable women to recognize warning signs, understand disease progression, and actively participate in clinical decision-making. Improving health literacy may reduce uncertainty while enhancing treatment adherence and confidence in self-management(Saharoy et al., 2023)

The review also demonstrated that psychological responses constitute an integral component of the symptom burden associated with PIH. Roberts et al. (2017) identified emotional reactions ranging from shock and fear at diagnosis to gradual acceptance during recovery, while Helou et al. (2021a) reported similar feelings of uncertainty among women without previous experience of hypertensive disorders. These findings indicate that emotional distress begins at diagnosis and frequently persists into the postpartum period. Consequently, routine psychological assessment, empathetic counselling, and emotional support should be incorporated into antenatal and postnatal management rather than being considered secondary components of care.(Saharoy et al., 2023)

Another important observation was the positive contribution of self-monitoring interventions to symptom management. Both Hinton et al. (2017) and Pealing et al. (2022) demonstrated that home blood pressure self-monitoring was feasible, acceptable, and associated with increased confidence, reassurance, and awareness of hypertensive symptoms. Women reported greater engagement in monitoring their condition and improved understanding of blood pressure changes, while clinicians considered self-monitoring to be an acceptable adjunct to routine antenatal care. These findings support the growing emphasis on patient empowerment and self-management in chronic disease care and suggest that carefully implemented home monitoring programmes may facilitate earlier recognition of symptom deterioration and improve communication between women and healthcare professionals.(Lin et al., 2025)

The findings further emphasize the importance of effective communication and continuity of care throughout pregnancy. Roberts et al. (2017) reported that trusting relationships with healthcare providers, continuity of caregivers, and social support significantly improved women's experiences. Likewise, Obi et al. (2026) identified intentional communication, detailed counselling, and shared decision-making as distinguishing characteristics of optimal care. These observations highlight that high-quality symptom management depends not only on clinical interventions but also on therapeutic relationships that encourage women to express concerns, ask questions, and participate actively in their care. Person-centred communication may therefore improve both patient satisfaction and adherence to recommended management strategies.(Mane et al., 2024)

Family involvement and multidisciplinary support also emerged as important contributors to positive maternal experiences. Women consistently described reassurance obtained from partners, family members, and healthcare professionals, indicating that effective symptom management occurs within a broader social and healthcare context. Incorporating family education alongside nursing and obstetric counselling may strengthen adherence to self-care recommendations, facilitate early recognition of danger signs, and reduce emotional distress during pregnancy and the postpartum period.(Mane et al., 2024)

Collectively, the reviewed evidence demonstrates that symptom management for PIH should be viewed as a multidimensional process integrating clinical surveillance, patient education, psychological support, self-monitoring, and collaborative care. Although the qualitative findings consistently identified common challenges and facilitators across different healthcare systems, most included studies were conducted in high-income countries with relatively small sample sizes.(Wu et al., 2024) Differences in healthcare infrastructure, cultural beliefs, resource availability, and maternity care delivery may influence women's experiences and the implementation of symptom management interventions. Consequently, caution is warranted when generalizing these findings to low- and middle-income settings, where the burden of hypertensive disorders in pregnancy is often greater and access to comprehensive antenatal services may be limited.(Coast et al., 2014)

The review also identifies several implications for nursing and maternity practice. Nurses and midwives are ideally positioned to deliver structured symptom education, reinforce home blood pressure monitoring, provide ongoing psychological support, coordinate multidisciplinary care, and facilitate

shared decision-making throughout pregnancy. Developing standardized symptom management packages that integrate educational, behavioural, and psychosocial components may enhance maternal confidence, improve self-management behaviours, and promote earlier identification of clinical deterioration. Future research should evaluate these comprehensive interventions using robust multicentre randomized controlled trials and mixed-methods designs to establish their effectiveness across diverse populations and healthcare settings.(Dineen-Griffin et al., 2019)

Overall, the synthesized evidence suggests that effective symptom management in pregnancy-induced hypertension requires an integrated, woman-centred approach that combines evidence-based clinical care with responsive communication, individualized education, and psychosocial support. Such an approach has the potential to improve maternal experiences, strengthen engagement with healthcare services, and optimize pregnancy outcomes.

Bias Assessment

The methodological quality of the included studies indicated an overall low to moderate risk of bias, although several potential sources of bias were identified. Most qualitative studies employed appropriate sampling strategies, semi-structured interviews, and rigorous thematic or content analysis; however, the use of purposive sampling and relatively small sample sizes may have introduced selection bias and limited the transferability of findings. Interview-based studies were also susceptible to recall and response bias, particularly among women reflecting on postpartum experiences. Studies evaluating self-monitoring interventions demonstrated good methodological rigor but were vulnerable to performance bias because blinding of participants and healthcare providers was not feasible. Additionally, heterogeneity in study settings, participant characteristics, intervention components, and outcome measures limited direct comparisons across studies. Most investigations were conducted in high-income countries, reducing the generalizability of findings to low- and middle-income settings where healthcare resources and models of maternity care differ substantially. Despite these limitations, the consistent reporting of key themes across studies enhances the credibility of the synthesized evidence and supports the overall trustworthiness of the review findings.

Implications of the study findings

Clinical Practice

The findings highlight the need to integrate structured symptom management into routine antenatal care for women with pregnancy-induced hypertension. Healthcare professionals should provide individualized education, regular symptom assessment, psychological support, and guidance on self-monitoring to facilitate early recognition of warning signs and improve maternal outcomes.

Nursing Practice

Nurses and midwives play a pivotal role in delivering evidence-based symptom management interventions. Nurse-led educational programmes, counselling, blood pressure self-monitoring support, and continuous follow-up can enhance women's self-care behaviours, treatment adherence, confidence, and emotional well-being while promoting woman-centred maternity care.

Policy Implications

The review supports the development of standardized clinical guidelines that incorporate comprehensive symptom management alongside medical treatment for pregnancy-induced hypertension. Policymakers should encourage multidisciplinary care models and strengthen healthcare systems to ensure consistent patient education, continuity of care, and access to self-monitoring resources across different healthcare settings.

Research Implications

Further multicentre randomized controlled trials and mixed-methods studies are required to evaluate standardized symptom management packages across diverse populations. Future research should also examine the long-term maternal and neonatal outcomes, cost-effectiveness, implementation strategies, and cultural adaptability of symptom management interventions, particularly in low- and middle-income countries where the burden of pregnancy-induced hypertension remains high.

Limitations and Future Directions

This systematic review has several limitations that should be considered while interpreting the findings. First, only studies published in the English language were included, which may have resulted in language bias and the exclusion of relevant evidence from non-English publications. Second, the included studies demonstrated considerable heterogeneity in study designs, intervention characteristics, outcome measures, and healthcare settings, limiting direct comparison and precluding quantitative meta-analysis. Third, most studies were qualitative or conducted with relatively small sample sizes, which may reduce the generalizability of the findings. Additionally, the majority of the evidence originated from high-income countries, where healthcare infrastructure and maternity care services differ from those in low- and middle-income countries. Finally, variations in the description and implementation of symptom management interventions limited the identification of a standardized approach applicable across diverse clinical settings.

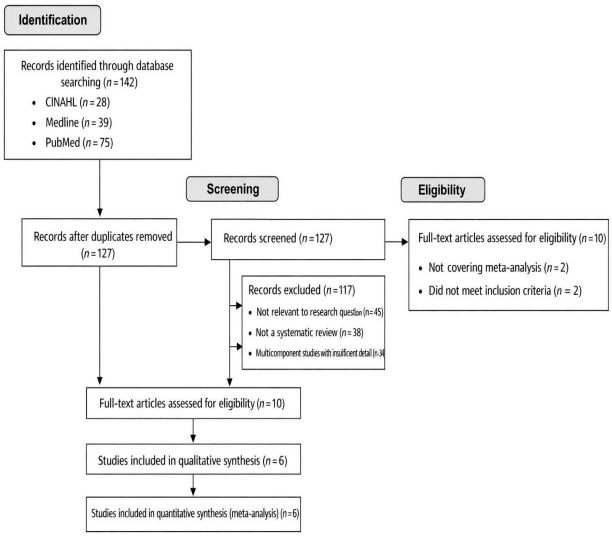
Future research should focus on developing and evaluating standardized, evidence-based symptom management packages specifically designed for women with pregnancy-induced hypertension. Large multicentre randomized controlled trials are

needed to determine the effectiveness of these interventions across diverse populations and healthcare systems. Further studies should investigate the long-term maternal and neonatal outcomes associated with symptom management interventions, including postpartum recovery and quality of life. Research exploring digital health technologies, telemonitoring, mobile health applications, and artificial intelligence-assisted symptom monitoring may provide innovative approaches to improving self-management and early detection of disease progression. Additionally, implementation research is warranted to identify barriers and facilitators to integrating comprehensive symptom management programmes into routine maternity care, particularly in resource-constrained settings.

Conclusion

This systematic review synthesizes current evidence on the lived experiences of women with pregnancy-induced hypertension and the effectiveness of symptom management interventions. The findings demonstrate that women experience substantial physical symptoms, psychological distress, and informational needs throughout the course of the condition. Interventions such as structured education, home blood pressure self-monitoring, individualized counselling, effective communication, and continuity of care were consistently associated with improved self-management, enhanced confidence, reduced anxiety, and greater engagement with healthcare services. The review further highlights that successful symptom management extends beyond blood pressure control and requires a holistic, woman-centred approach that addresses clinical, emotional, and psychosocial needs. Integrating evidence-based symptom management strategies into routine antenatal care has the potential to improve maternal experiences and optimize pregnancy outcomes. Nevertheless, the current evidence is largely derived from qualitative studies and high-income settings, underscoring the need for robust multicentre trials to establish standardized symptom management packages and support their implementation across diverse healthcare contexts.

PRISMA FLOW CHART



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