

Background and Objectives

Hypertensive disorders of pregnancy (HDP) are a leading cause of adverse maternal and perinatal outcomes worldwide. This systematic review aims to critically analyse international practice guidelines specifically focused on the management of HDP in cases of gestational hypertension (GH) and pre-eclampsia (PE). Our objective is to identify similarities and discrepancies in the classification, diagnosis and management of these condition, in view of improving the quality of care for HDP.

Methods

Published guidelines from January 2010 to April 2024 were searched, utilising databases such as MEDLINE and EMBASE; and other sources including the Emergency Care Research Institute (ECRI) Guidelines Trust, and the Guidelines International Network's website (GIN). Guidelines were only included if written in English and not derived from other guidelines. All the guidelines were compared for their definitions, diagnostic criteria, recommendations for pharmacological and non-pharmacological management and contraindications. The AGREE II score tool was used to assess quality of all the included guidelines.

Table 1. Similarities, differences and knowledge gaps among the explored guidelines.

Similarities	Differences	Knowledge Gaps
➤ Definition of GH and PE ➤ BP thresholds for GH diagnosis ➤ Proteinuria, thrombocytopenia, elevated transaminase, severe headaches, visual disturbances, abnormal umbilical artery Doppler and FGR are diagnostic criteria for PE ➤ Aspirin for HDP prevention ➤ Benefit of moderate exercise ➤ Labetalol, nifedipine and methyldopa for HDP pharmacological management ➤ Avoidance of ACEi and ARB in pregnancy	➤ Intervals between BP readings for HDP diagnosis ➤ Proteinuria, creatinine, platelets, transaminases thresholds for PE diagnosis ➤ Pulmonary oedema as a PE diagnostic criterion ➤ Stillbirth and placental abruption as associated features of PE ➤ Timing and dosage of prophylactic aspirin ➤ BP threshold to start drug treatment in HDP and PE ➤ BP target values to be reached upon treatment in HDP and PE ➤ Use of diuretics in HDP	➤ Prophylactic use of calcium, vitamins, antioxidants and folic acid ➤ Recommendations on weight control, diet, salt restriction ➤ Specific recommendations on type, intensity, and frequency physical activity during pregnancy ➤ Dietary modifications ➤ Benefit of weight loss programs ➤ Second line pharmacological treatments in HDP management ➤ Safety of β-blockers (other than labetalol) and calcium channel antagonists in pregnancy

Results

Recommendations from 12 included guidelines were compared. All guidelines were consistent in their definition of GH and PE and which antihypertensive agents to avoid. Guidelines differed in the recommended blood pressure thresholds for initiation of antihypertensive medication and treatment targets. The use of aspirin was universally recommended, but guidance on non-pharmacological interventions such as salt restriction in diet, weight loss in the obese, and exercise showed discrepancies among guidelines.

Conclusions

All guidelines acknowledge the significant morbidity associated with HDP and advocate for timely diagnosis and management to reduce associated morbidity and mortality. However, there is significant discrepancy in many aspects including definition and pharmacological management. More research is needed to understand optimal blood pressure (BP) thresholds at which to initiate antihypertensive medication regimens, the choice of antihypertensive, and the efficacy and benefits of non-pharmacological interventions in HDP. These findings exhibit knowledge gaps and should be addressed in future guidelines.

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