Additional file 1. Summary of studies included in the Review

Reference number	Study ID & Year	Study design	Country	Prevention	Management	Monitoring and follow up
(22)	Billah et al. (2021)	Quantitative Cross-sectional study	Bangladesh	NI	Not all patients needing antihypertensive drugs received them. $MgSO4^{+}$: used for severe preeclampsia, was not available in all evaluated centers.	Alarm symptoms often overlooked. Inadequate anamnesis and blood pressure measurement. Lack of care protocols. Most of patients with preeclampsia were not identified.
(14)	Naidoo et al (2020)	Qualitative narrative review	South Africa	Aspirin: women with risk factors but no proteinuria	Pre-eclampsia treatment: Alpha methyldopa for mild cases; MgSO4, vital sign monitoring, nifedipine/IV labetalol for severe cases; steroids for gestational age 28-34 weeks; urgent delivery for severe conditions.	Identify features, conduct tests, and perform fetal sonar. Monitor vital signs. Refer after stabilization.
(30)	Von Dadelzsen et al (2021)	Qualitative narrative review	India, Mozambique, and Pakistan	NI	There was evidence of underuse of available antihypertensive drugs and variation in the availability of MgS04.	Variations were evident in the availability of laboratory tests.
(32)	Okereke et al. (2012)	Quantitative retrospective study	Nigeria	NI	Throughout Nigeria, diazepam is commonly used for the treatment of eclampsia.	NI
(31)	Long et al (2017)	Quantitative	Afghanistan, Argentina, Democratic Republic of the Congo, India, Kenya, Niger, Nigeria, Pakistan, Paraguay, Peru, Sri Lanka, Uganda	NI	MgSO4 available but less in Africa. Dosing varied widely, inconsistent with international recommendations. A quarter of all centers used MgSO4 for mild preeclampsia.	Barriers: decentralized procurement, lack of evidence-based protocols, insufficient training, personnel shortage, and toxicity concerns.
(21)	Ona et al (2021)	Qualitative Narrative review	Phillippines	NI	Outpatient hypertension: oral antihypertensives. Severe hypertension: IV antihypertensives; oral nifedipine if IV access is unavailable.	Patient education on warning signs
(24)	Vigil-De Gracia et al (2013)	Quantitative Randomized clinical trial	Latin America	NI	Severe hypertension: hydralazine, labetalol, or nifedipine bolus, MgSO4. Steroids: dexamethasone or betamethasone. Avoid expectant management (28-33 weeks) after corticosteroid treatment.	Serial measurement of laboratories at admission and each day for 48 ± 72
(20)	Omotayo et al (2018)	Quantitative Prospective	Kenya	Calcium supplements in over 98% of visits, 76% received the sufficient amount.	NI	NI
(42)	Kuupiel et al (2020)	Quantitative Cross sectional study	Ghana	NI	NI	81% of participating clinics did not provide point-of-care HDP testing services due to the unavailability
(17)	Nkamba et al (2020)	Quantitative cross-sectional study.	Democratic Republic of Congo	Kinshasa protocols lack low-dose aspirin for preeclampsia prevention.	50% centers lacked pregnancy hypertensive protocols. MgSO4 given in 43.9%, toxicity monitored in 10%, post-delivery guidelines followed in 23%. Availability: MgSO4 36.2%,	Kinshasa lacks protocols for identifying preeclampsia risk in prenatal care. Around two-thirds have urine protein analysis, and

				Aspirin available in less than one-third of centers.	calcium gluconate 31.0%, antihypertensives (methyldopa, nifedipine, hydralazine) limited to 18.9%, 15.5%, 6.9% of centers.	only 24.1% have ambulances for referrals. There was low knowledge of the risk factors of HDP and lack of knowledge of the use of aspirin and calcium as preventive drugs.
(33)	Bigdeli et al (2013)	mixed method study	Pakistan	NI	Lack of referral guidelines results in convulsing patients referred without emergency care. MgSO4 is a policy first-line treatment but not widely practiced; diazepam is preferred due to MgSO4 unfamiliarity, with simultaneous use observed.	Professionals aware of MgSO4 for eclampsia but lack knowledge for severe pre-eclampsia. Concerns about toxicity. Misconception it's only for advanced settings.
(39)	Kutah Ola (2022)	Qualitative Descriptive cross-sectional study	Jordania	NI	NI	Healthcare providers had average knowledge of pre-eclampsia's causes, high perception of its seriousness, but poor management practices regarding medication details.
(34)	Gordon et al (2014)	Qualitative Systematic review	ghana	NI	26 studies: 39 MgSO4 dosing regimens detailed. Loading doses common, often IV+IM; 4 g IV frequent. Bangladesh used 10 g (4 g IV+6 g IM). Respiratory depression 1.3%, calcium gluconate <0.2%.	MgSO4 dose or duration reduced in most cases due to toxicity or availability concerns.
(35)	Williams et al (2019)	retrospective record review	Bangladesh	NI	Women with preeclampsia or severe eclampsia should get MgSO4 loading dose, then be referred. Primary care providers can't prescribe antihypertensives. Some institutions lack MgSO4 and blood pressure machines.	Primary care providers identify 53% PE/EPE* cases, 54% protocol compliant. Only 15% preeclampsia cases referred; 94% eclampsia cases receive MgSO4 and referral.
(28)	Ramavhoya et al. (2019)	Quantitative, cross-sectional	South Africa	NI	Severe pre-eclampsia/eclampsia: methyldopa, MgSO4, immediate referral. Delayed transport: additional MgSO4 dose. DBP >110: oral nifedipine.	The midwives recognized the importance of blood pressure monitoring during each prenatal visit. Midwives lack confidence treating preeclampsia, unaware MgSO4 toxicity and don't administer medication pre-referral.
(44)	Stellenberg et al (2016)	Quantitative descriptive correlational non-experimental research	South Africa	NI	NI	Midwives lacked preeclampsia knowledge, unfamiliar with MgSO4 administration, and unaware of preventive measures.

(19)	Ramavhoya et al.(2020)	Qualitative study	South Africa	Daily calcium gluconate for all pregnant women	African guidelines: Stabilize with MgSO4, antihypertensives, and urgently refer. Midwives initiate MgSO4 following institutional protocols.	Most midwives followed maternal healthcare guidelines when caring for pregnant women
(18)	Ekawati et al. (2020)	Qualitative Systematic review	Indonesia	Calcium supplementation. Aspirin prophylaxis: faces barriers due to its absence in local polices.	Prescribe antihypertensive medication immediately for severe hypertension Consider antihypertensive medication if blood pressure consistently remains above 140/90 mmHg. Recommend IV MgSO4 for eclamptic seizure prophylaxis in severe hypertension.	Limited lab facilities in primary care. Serum alpha-fetoprotein and Umbilical Doppler ultrasound not common outside tertiary hospitals.
(26)	Lalani et al. (2013)	Quantitative	144 LMICs	NI	Common antihypertensives: IV verapamil, hydralazine, nitroprusside, propranolol; oral nifedipine, methyldopa, propranolol, atenolol. Magnesium sulfate, calcium gluconate. Specific conditions: Furosemide for pulmonary edema, heparin for thrombosis, dexamethasone for fetal maturity	NI
(40)	Beardmore et al. (2021)	Mixed methods	Zambia, India	NI	Planned early delivery: Higher risk of neonatal unit admission, some needing extra support. Continuing expectant management poses a significant risk of stillbirth and birth asphyxia.	NI
(23)	Ngene et al. (2020)	Quantitative-Prospective Observational Study	South Africa	NI	Severe labor hypertension: IV labetalol, nifedipine, dihydralazine. Pulmonary edema: nitroglycerin. Antepartum: Nifedipine, alpha-methyl dopa. Postpartum: Gradually reduce alpha-methyl dopa.	NI
(25)	Jugnanden et al. (2020)	Qualitative-Case report, reflections	South Africa	NI	Use oral nifedipine for severe hypertension, alpha-methyldopa, and IV labetalol. MgSO4 for impending eclampsia. Primary care approach: Stabilize, inform hospital, administer MgSO4, facilitate same-day referral.	NI
(37)	Rawlins et al. (2018)	Quantitative-Cross sectional study	Sub-Saharan countries	NI	MgSO4 on essential lists, availability varies. Sub-Saharan use common; sometimes combined with diazepam. Antihypertensives not used in severe preeclampsia.	Few women (24%) admitted to labor were asked about PE/E signs, 7% had protein urinalysis, and 77% had blood pressure checked. The observed antenatal care consultations: low level of provision of WHO-recommended PE/E screening practices.
(38)	Adepoju et al. (2021)	Clinical trial	Nigeria	NI	CHW± initiate methyldopa and MgSO4 in patients at risk of preeclampsia. Refer to	NI

					the nearest health center with emergency obstetric care.	
(27)	Sotunsa et al (2016)	Qualitative cluster randomized controlled trial	Nigeria	NI	CHW± use antihypertensives, not MgSO4. Some providers avoid MgSO4. Diazepam is common for preeclampsia among them.	Most participants inquired about symptoms related to preeclampsia CHW± lack preeclampsia referrals, limited follow-up BP checks. Remote patients managed by them.
(29)	Sheikh et al (2016)	Mixed method study	Pakistan	NI	MgSO4 underutilized due to toxicity fears and dosage knowledge gaps. Diazepam often used for seizures. CHW± commonly use methyldopa	Only 6% of CHW± had a blood pressure device. Traditional midwives unaware of preeclampsia signs. Physicians worry about lower-level facility use of MgSO4.
(36)	Vata et al. (2015)	Quantitative	Ethiopia	NI	Only 15 % of severe preeclampsia cases received MgSO4	NI

+ MgSO4: Magnesium sulfate. * PE/E: Preeclampsia/Eclampsia. ±CHW: Community Health Workers