Jul 10, 2025

WHO Recommendation Around the Use of Diagnostics for Prevention and Management of Pre-eclampsia and Eclampsia: Scoping Review of International Recommendations

DOI
https://dx.doi.org/10.17504/protocols.io.yxmvmb799g3p/v1

Monica Elizabeth Chamillard[1], Julia Pasquale[1], Virginia Diaz[1], Celina Gialdini[1]

[1]Centro Rosarino Estudios Perinatales

Monica Elizabeth Chamillard
Centro Rosarino Estudios Perinatales

DOI: https://dx.doi.org/10.17504/protocols.io.yxmvmb799g3p/v1

Protocol Citation: Monica Elizabeth Chamillard, Julia Pasquale, Virginia Diaz, Celina Gialdini 2025. WHO Recommendation Around the Use of Diagnostics for Prevention and Management of Pre-eclampsia and Eclampsia: Scoping Review of International Recommendations. **protocols.io** https://dx.doi.org/10.17504/protocols.io.yxmvmb799g3p/v1

Protocol status: In development
We are still developing and optimizing this protocol

Created: July 08, 2025

Last Modified: July 10, 2025

Protocol Integer ID: 221960

Keywords: preeclampsia, clinical practice guideline, diagnosis, evidence-based recommendations, eclampsia during pregnancy, eclampsia, highest chance of eclampsia, women vulnerable to eclampsia, maternal mortality reduction, maternal health, maternal death, maternal risk factor, blood pressure throughout pregnancy, newborn deaths each year, global annual rate of maternal mortality reduction, newborn death, proteinuria during pregnancy, diagnostics for prevention, pregnancy, who department of maternal, potential for early diagnosis, hypertensive disorder, pregnant women, promising diagnostics under development, recommendations for the prevention, early diagnosis, live birth, childbirth, promising diagnostic, maternal, world health organization, treatment of hypertensive disorder, blood pressure, use of diagnostic, diagnostic, antenatal care contact, newborn, mortality, risk factor

Funders Acknowledgements:
Anonymous source

Abstract

Every day, over 800 women die due to complications in pregnancy and childbirth. Nearly all of these deaths occur in low- and middle-income countries (LMICs). From 2000 to 2015, the global annual rate of maternal mortality reduction was 2.7%, but this has nearly plateaued in the first five years of the Sustainable Development Goals (SDGs) – falling only marginally from 227 per 100,000 live births in 2015, to 223 in 2020. Hypertensive disorders are a leading cause of maternal and newborn death. Pre-eclampsia – a significant driver of this burden - is characterised by the onset of high-blood pressure and proteinuria during pregnancy. If not appropriately managed, pre-eclampsia can develop into eclampsia – convulsions or seizures before, during and after birth. Eclampsia is responsible for 76,000 maternal deaths and 500,000 newborn deaths each year. The World Health Organization (WHO) recommends screening for key pre-eclampsia clinical indicators at every antenatal care contact. Available diagnostic tools are not well suited to low-resource settings, and thus adherence to WHO recommendations is limited in many LMICs. Even when pre-eclampsia is identified, appropriate care can be challenging in low resource settings. Following diagnosis, pre-eclampsia can often be managed with drugs to lower blood pressure throughout pregnancy. But delays in identification prevent access - placing women at risk of severe adverse outcomes that require specialised care. When pre-eclampsia is severe and women are at highest chance of eclampsia, WHO recommends use of magnesium sulphate during labour - a drug that requires an injection and controlled administration. The complex dosing regimen further restricts access in low-resource settings, leaving women vulnerable to eclampsia in areas where care is needed most. In order to reach global goals, greater efforts are needed to address the burden of pre-eclampsia in LMICs to accelerate progress toward the global goals for maternal health. The World Health Organization (WHO) recently updated its guidelines and recommendations for the prevention and treatment of hypertensive disorders during pregnancy, including recommendations around medications for prevention and treatment. In addition, WHO recommends that all pregnant women are screened for pre-eclampsia and eclampsia during pregnancy to assess maternal risk factors and blood pressure. However, current WHO guidelines do not include any recommendations related to diagnostics for pre-eclampsia. Biomarkers offer a potential for early diagnosis and effective treatment, but further evidence is needed to assess applicability in all populations. There are some promising diagnostics under development already recommended in NICE guidelines. The WHO Department of Maternal, Newborn, Child and Adolescent Health and Ageing (WHO/MCA) proposes to review the evidence and develop a WHO recommendation around the use of diagnostics for prevention and management of pre-eclampsia and eclampsia. Prior to embarking on this, WHO/MCA proposes to better understand what is currently included in guidelines of some of the larger norm-setting organizations and what systematic reviews are already available on pre-eclampsia diagnostics.

Objectives

1 To develop a background paper that a) maps published guidelines of some of the larger scientific societies or international associations to identify existing guidance related to pre-eclampsia diagnostics and highlight convergence and differences in content and recommendations and b) summarizes information on existing published systematic reviews on pre-eclampsia diagnostics.

Methods

2 Mapping published recommendations from international and national guidelines

3 We will conduct a systematic search for evidence-based guidelines on pre-eclampsia diagnostics in PubMed, Literatura Latinoamericana y del Caribe en Ciencias de la Salud (LILACS), Geneva Foundation for Medical Education and Research (GFMER) and TRIP (Turning Research Into Practice) database®.

4 We will also do a search of the websites of the larger national and international norm-setting and professional organizations including the National Institute for Health and Care Excellence (NICE), the International Federation of Gynecology and Obstetrics (FIGO), the American College of Obstetricians and Gynecologists (ACOG), Society of Obstetricians and Gynaecologists of Canada (SOGC), The Preeclampsia Foundation and others and reach out to key informants from partner organizations.

5 We employed a broad search strategy, with no language restrictions, in order to identify as many relevant high-impact international and national guidelines as possible that include methods and tools for the diagnosis of preeclampsia. We used the MeSH term 'preeclampsia'. We applied the 'guidelines' filter on study type in PubMed and 'practice guidelines' in LILACS. We limited our search to all clinical practice guidelines published after January 2014. For included guidelines, we will:

5.1 Create a spreadsheet and list all the relevant recommendations.

5.2 Extract important information on each recommendation identified including the year of publication, the strength of the recommendation updates conducted, the current corresponding systematic review or evidence base underpinning the recommendation, and any editions after publication.

6 Mapping published systematic reviews relevant to pre-eclampsia diagnosis

7 To identify additional systematic reviews from those used as the evidence-based in the recommendations found in the previous step, we will conduct a systematic search for systematic reviews on pre-eclampsia diagnostics in Cochrane, PubMed and LILACS databases. We will employ a broad search strategy for publications with no date or language restrictions in order to identify all relevant systematic reviews on preeclampsia diagnostics. We will test the use of the MESH term 'preeclampsia'. We will apply the 'systematic review' filter on study type in PubMed and in LILACS. All relevant, systematic reviews will be considered for inclusion.

8 For included systematic reviews identified from the mapping of recommendations and from the additional search we will:

8.1 Create a spreadsheet listing all included systematic reviews.

8.2 Extract important characteristics of each systematic review (e.g authors, year of publication, last update as up to date, number of included studies, number of participants, design of included studies, type of participants).