WHO recommendations for

Prevention and treatment of pre-eclampsia and eclampsia

SUMMARY OF RECOMMENDATIONS

Introduction

Hypertensive disorders of pregnancy are an important cause of severe morbidity, long-term disability and death among both mothers and their babies. In Africa and Asia, nearly one tenth of all maternal deaths are associated with hypertensive disorders of pregnancy, whereas one quarter of maternal deaths in Latin America have been associated with those complications. Among the hypertensive disorders that complicate pregnancy, pre-eclampsia and eclampsia stand out as major causes of maternal and perinatal mortality and morbidity. The majority of deaths due to pre-eclampsia and eclampsia are avoidable through the provision of timely and effective care to the women presenting with these complications. Optimizing health care to prevent and treat women with hypertensive disorders is a necessary step towards achieving the Millennium Development Goals. WHO has developed the present evidence-based recommendations with a view to promoting the best possible clinical practices for the management of pre-eclampsia and eclampsia.

Guideline development methods

The procedures used in the development of these guidelines, which are outlined in the *WHO Handbook for guideline development*[1], involved: (i) identification of questions related to clinical practice and health policy for which answers were needed; (ii) retrieval of up-to-date research-based evidence; (iii) assessment and synthesis of the evidence; (iv) formulation of recommendations with inputs from a wide range of stakeholders; and (v) formulation of plans for dissemination, implementation, impact evaluation and updating.

The scientific evidence for the recommendations was synthesized using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology. For each preselected critical question, evidence profiles were prepared based on 19 up-to-date systematic reviews. The final recommendations were formulated and approved by an international group of experts who participated in the WHO Technical Consultation on the Prevention and Treatment of Pre-eclampsia and Eclampsia, held in Geneva, Switzerland, on 7–8 April 2011. The experts also identified important knowledge gaps that needed to be addressed through primary research and developed a list of priority research questions.

The recommendations

The WHO Technical Consultation made a total of 23 recommendations. For each recommendation, the quality of the supporting evidence was graded as very low, low, moderate or high. Then, taking into account the quality of the evidence and other factors (including the values and preferences, the magnitude of effect, the balance of benefits versus disadvantages, resource use and feasibility of each recommendation), the experts marked the recommendations as either weak or strong. In addition, in order to ensure that each recommendation will be understood and used in practice as in accordance with its intended meaning, the experts made several remarks, which are noted below the recommendations in the full document. In case of any doubt about the meaning of each recommendation, the reader is referred to the remarks in the full version of the guidelines. The 23 recommendations are presented below in two sets: interventions that are recommended and interventions that are not recommended.

[1] *WHO Handbook for guideline development.* Geneva, World Health Organization, 2008.

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Box 1: Interventions that are recommended for prevention or treatment of pre-eclampsia and eclampsia

Recommendation	Quality of evidence	Strength
In areas where dietary calcium intake is low, calcium supplementation during pregnancy (at doses of 1.5–2.0 g elemental calcium/day) is recommended for the prevention of pre-eclampsia in all women, but especially those at high risk of developing pre-eclampsia.	Moderate	Strong
Low-dose acetylsalicylic acid (aspirin, 75 mg) is recommended for the prevention of pre-eclampsia in women at high risk of developing the condition.	Moderate	Strong
Low-dose acetylsalicylic acid (aspirin, 75 mg) for the prevention of pre-eclampsia and its related complications should be initiated before 20 (+0) weeks of pregnancy.	Low	Weak
Women with severe hypertension during pregnancy should receive treatment with antihypertensive drugs.	Very Low	Strong
The choice and route of administration of an antihypertensive drug for severe hypertension during pregnancy, in preference to others, should be based primarily on the prescribing clinician's experience with that particular drug, its cost and local availability.	Very low	Weak
Magnesium sulfate is recommended for the prevention of eclampsia in women with severe pre-eclampsia in preference to other anticonvulsants.	High	Strong
Magnesium sulfate is recommended for the treatment of women with eclampsia in preference to other anticonvulsants.	Moderate	Strong
The full intravenous or intramuscular magnesium sulfate regimens are recommended for the prevention and treatment of eclampsia.	Moderate	Strong
For settings where it is not possible to administer the full magnesium sulfate regimen, the use of magnesium sulfate loading dose followed by immediate transfer to a higher level health-care facility is recommended for women with severe pre-eclampsia and eclampsia.	Very low	Weak
Induction of labour is recommended for women with severe pre-eclampsia at a gestational age when the fetus is not viable or unlikely to achieve viability within one or two weeks.	Very low	Strong
In women with severe pre-eclampsia, a viable fetus and before 34 weeks of gestation, a policy of expectant management is recommended, provided that uncontrolled maternal hypertension, increasing maternal organ dysfunction or fetal distress are absent and can be monitored.	Very low	Weak
In women with severe pre-eclampsia, a viable fetus and between 34 and 36 (plus 6 days) weeks of gestation, a policy of expectant management may be recommended, provided that uncontrolled maternal hypertension, increasing maternal organ dysfunction or fetal distress are absent and can be monitored.	Very low	Weak
In women with severe pre-eclampsia at term, a policy of early delivery is recommended.	Low	Strong
In women with mild pre-eclampsia or mild gestational hypertension at term, induction of labour is recommended.	Moderate	Weak
In women treated with antihypertensive drugs antenatally, continued antihypertensive treatment post partum is recommended.	Very low	Strong
Treatment with antihypertensive drugs is recommended for severe postpartum hypertension.	Very low	Strong

Box 2: Interventions that are not recommended for prevention or treatment of pre-eclampsia and eclampsia

Recommendation	Quality of evidence	Strength
Advice to rest at home is not recommended as an intervention for the primary prevention of pre-eclampsia and hypertensive disorders of pregnancy in women considered to be at risk of developing those conditions.	Low	Weak
Strict bedrest is not recommended for improving pregnancy outcomes in women with hypertension (with or without proteinuria) in pregnancy.	Low	Weak
Restriction in dietary salt intake during pregnancy with the aim of preventing the development of pre-eclampsia and its complications is not recommended.	Moderate	Weak
Vitamin D supplementation during pregnancy is not recommended to prevent the development of pre-eclampsia and its complications.	Very low	Strong
Individual or combined vitamin C and vitamin E supplementation during pregnancy is not recommended to prevent the development of pre-eclampsia and its complications.	High	Strong
Diuretics, particularly thiazides, are not recommended for the prevention of pre-eclampsia and its complications.	Low	Strong
The use of corticosteroids for the specific purpose of treating women with HELLP syndrome is not recommended.	Very low	Weak

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