

WHO recommendations

Drug treatment for severe hypertension in pregnancy



World Health
Organization

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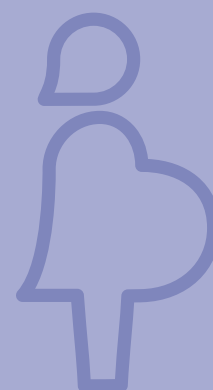
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Abbreviations

BMGF	Bill & Melinda Gates Foundation
CI	Confidence interval
CS	Caesarean section
DOI	Declaration of Interest
FHR	Fetal heart rate
FIGO	International Federation of Gynaecology and Obstetrics
FWC	Family, Women's and Children's Health (a WHO cluster)
GDG	Guideline Development Group
GRC	Guideline Review Committee
GRADE	Grading of Recommendations, Assessment, Development, and Evaluation
GREAT	Guideline development, Research priorities, Evidence synthesis, Applicability of evidence, Transfer of knowledge (a WHO project)
GSG	Executive Guideline Steering Group
HELLP	Haemolysis, elevated liver enzymes, low platelet
ICM	International Confederation of Midwives
LMIC	Low and middle-income country
MCA	[WHO Department of] Maternal, Newborn, Child and Adolescent Health
MCSP	Maternal and Child Survival Programme
MPA	Maternal and Perinatal Health and Preventing Unsafe Abortion (a team in WHO's Department of Reproductive Health and Research)
MPH	Maternal and perinatal health
NNT	Number needed to treat
PICO	Population (P), intervention (I), comparison (C), outcome (O)
RHR	[WHO Department of] Reproductive Health and Research
RR	Relative risk
SDG	Sustainable Development Goals
UN	United Nations
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
WHO	World Health Organization



Contents

Acknowledgements	iii
Abbreviations	iv
Executive Summary	1
1. Background	3
2. Methods	4
3. Recommendations and supporting evidence	9
4. Dissemination and implementation of the recommendations	10
5. Research implications	11
6. Applicability issues	11
7. Updating the recommendations	11
References	12
Annex 1. External experts and WHO staff involved in the preparation of the guideline	13
Annex 2. Priority outcomes for decision-making	17
Annex 3. Summary and management of declared interests from GDG members	18
Annex 4. Evidence-to-decision framework	20
Annex 5. GRADE Tables	38

Executive Summary

Introduction

Hypertensive disorders of pregnancy are an important cause of severe morbidity, long-term disability and death among both pregnant women and their babies, and account for approximately 14% of all maternal deaths worldwide. Improving care for women around the time of childbirth is a necessary step towards achievement of the health targets of the Sustainable Development Goals (SDGs). Efforts to prevent and reduce morbidity and mortality during pregnancy and childbirth could also help address the profound inequities in maternal and perinatal health globally. To achieve these goals, healthcare providers, health managers, policy makers and other stakeholders need up-to-date and evidence-based recommendations to inform clinical policies and practices.

In 2017, the Executive Guideline Steering Group (GSG) on WHO maternal and perinatal health recommendations prioritized the updating of the existing WHO recommendations on antihypertensive drugs for severe hypertension in pregnancy in response to important new evidence on these interventions. These recommendations are a revalidation of the previous recommendations issued in 2011 in the *WHO recommendations on prevention and treatment of pre-eclampsia and eclampsia*.

Target audience

The primary audience of these recommendations includes healthcare providers who are responsible for developing national and local health protocols (particularly those related to hypertensive disorders of pregnancy) and those directly providing care to pregnant women and their newborns, including midwives, nurses, general medical practitioners, obstetricians, managers of maternal and child health programmes, and relevant staff in ministries of health, in all settings.

Guideline development methods

The updating of these recommendations was guided by standardized operating procedures in accordance with the process described in the *WHO handbook for guideline development*. The recommendations were initially developed using this process, namely:

- (i) identification of the priority question and critical outcomes;
- (ii) retrieval of evidence;
- (iii) assessment and synthesis of evidence;
- (iv) formulation of the recommendations; and
- (v) planning for the dissemination, implementation, impact evaluation and updating of the recommendations.

The scientific evidence supporting the recommendations was synthesized using the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) approach. The systematic review was used to prepare evidence profiles for the prioritized question. WHO convened an online meeting on 2 May 2018 where an international group of experts – the Guideline Development Group (GDG) – reviewed and approved the recommendations.

The recommendations

The GDG reviewed the balance between the desirable and undesirable effects and the overall quality of supporting evidence, values and preferences of stakeholders, resource requirements and cost-effectiveness, acceptability, feasibility and equity. The GDG revalidated the WHO recommendations published in 2011 with minor revisions to the remarks and implementation considerations.

To ensure that the recommendations are correctly understood and applied in practice, guideline users should refer to the remarks, as well as to the evidence summary, if there is any doubt as to the basis of the recommendations and how best to implement them.

Table 1: WHO recommendations: drug treatment for severe hypertension in pregnancy.

<p>1. Women with severe hypertension during pregnancy should receive treatment with antihypertensive drugs (<i>strong recommendation, very low certainty evidence</i>)</p> <p>Remarks</p> <ul style="list-style-type: none"> The guideline development group considered that there is no clinical uncertainty over whether treatment of severe hypertension during pregnancy is beneficial. This recommendation was made based on expert opinion; the group considered that most maternal deaths related to hypertensive disorders are associated with complications of uncontrolled severe high blood pressure. Based on that, the group agreed that antihypertensive treatment should be recommended in all cases of severe hypertension.
<p>2. 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 (<i>conditional recommendation, very low certainty evidence</i>)</p> <p>Remarks</p> <ul style="list-style-type: none"> In terms of the choice and route of administration of an antihypertensive drug for severe hypertension during pregnancy, the guideline development group noted that not only is the evidence base for this recommendation limited, but also some antihypertensive drugs may not be feasible options in many settings. The group acknowledged that hydralazine, alpha methyldopa, beta blockers (including labetalol) and nifedipine have been extensively used, and therefore, these agents would seem to be reasonable choices until further evidence becomes available. The group noted that there was no evidence to suggest that nifedipine interacts adversely with magnesium sulfate. In addition, the group considered that the use of angiotensin- converting enzyme inhibitors, angiotensin receptor blockers and sodium nitroprusside should be avoided due to safety concerns.

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