

# WHO antenatal care recommendations for a positive pregnancy experience

## Nutritional interventions update: zinc supplements during pregnancy





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# Acronyms and abbreviations

ANC	antenatal care
CI	confidence interval
DECIDE	Developing and Evaluating Communication strategies to Support Informed Decisions and Practice based on Evidence
DOI	declaration of interest
ERG	External Review Group
EtD	evidence-to-decision
GDG	Guideline Development Group
GRADE	Grading of Recommendations Assessment, Development and Evaluation
GRADE-CERQual	Confidence in the Evidence from Reviews of Qualitative research
GSG	Guideline Steering Group
HRP	UNDP-UNFPA-UNICEF-WHO-World Bank Special Programme of Research, Development and Research Training in Human Reproduction
ICM	International Confederation of Midwives
LMICs	low- and middle-income countries
MCA	Department of Maternal, Newborn, Child and Adolescent Health and Ageing
NFS	Department of Nutrition and Food Safety
RCT	randomized controlled trial
RR	risk ratio
SRH	Department of Sexual and Reproductive Health and Research
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
US\$	United States dollar
USAID	United States Agency for International Development
WHO	World Health Organization

# Executive summary

## Introduction

Evidence from a systematic review on antenatal zinc supplementation was evaluated as part of the World Health Organization (WHO) antenatal care (ANC) guideline development process in 2016, and the following recommendation on zinc supplementation was made: “Zinc supplementation for pregnant women is only recommended in the context of rigorous research.” The Guideline Development Group (GDG) made this recommendation because it felt that the evidence on the intervention was incomplete and that more research was necessary.

Since the publication of the systematic review, four additional randomized controlled trials have been published; therefore, in April 2019, the Executive Guideline Steering Group (GSG) prioritized the WHO recommendation on antenatal zinc supplementation for updating.

Zinc is a trace element found in many foods, particularly in meat, but also in dairy products, legumes and unrefined cereals. It plays an important role in many biological processes that contribute to human growth and development, and also to immunity. As it is not stored in the body, it needs to be consumed regularly to prevent zinc deficiency, which is particularly common in low- and middle-income countries, where dietary intake of zinc-rich foods is often low. However, the effects of zinc deficiency in pregnancy have not been clearly established.

In January 2021, a WHO-convened GDG comprising most of the 2016 GDG members re-evaluated the evidence on antenatal zinc supplementation, updating the recommendation on zinc in accordance with WHO’s living guidelines approach.

## Target audience

The target audience of this updated recommendation includes national and local public health policy-makers, implementers and managers of national and local maternal and child health programmes, concerned nongovernmental and other organizations, professional societies involved in the planning and management of maternal and child health services, health professionals (including obstetricians, midwives, nurses, nutritionists and general medical practitioners) and academic staff involved in training health professionals.

## Guideline development methods

The updating of this recommendation was guided by the standardized operating procedures described in the *WHO handbook for guideline development*. These involve: (i) identification of the priority question and outcomes (done as part of the ANC guideline development process); (ii) evidence retrieval and synthesis; (iii) assessment of the evidence; (iv) formulation of the recommendation; and (v) planning for the dissemination, implementation, impact evaluation and updating of the recommendation. The scientific evidence supporting the recommendation was synthesized using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) and Confidence in the Evidence from Reviews of Qualitative research (GRADE-CERQual) approaches, for

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