

GUIDELINE

DAILY IRON SUPPLEMENTATION

in adult women and
adolescent girls



2016



World Health
Organization

Guideline:

**DAILY IRON SUPPLEMENTATION
IN ADULT WOMEN
AND ADOLESCENT GIRLS**

Guideline: Daily iron supplementation in adult women and adolescent girls

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WHO GUIDELINE¹: DAILY IRON SUPPLEMENTATION IN ADULT WOMEN AND ADOLESCENT GIRLS

EXECUTIVE SUMMARY

Globally, one in three non-pregnant women, corresponding to almost 500 million women, were anaemic in 2011. Iron deficiency is thought to contribute to at least half of the global burden of anaemia. Iron deficiency occurs following prolonged negative iron balance, the major causes of which include inadequate intake (owing to insufficient bioavailable iron in the diet or decreased iron absorption), increased iron requirements (for instance, during periods of growth) and chronic blood loss (from heavy hookworm infection or menstrual bleeding). In adolescent girls, menstrual blood losses, accompanied by rapid growth with expansion of the red cell mass and increased tissue iron requirements, make them particularly vulnerable to iron deficiency compared to male counterparts. This guideline reviews the evidence and updates the recommendation for daily iron supplementation in menstruating adult women and adolescent girls.

Purpose of the guideline

This guideline aims to help Member States and their partners in their efforts to make informed decisions on the appropriate nutrition actions to achieve the [Sustainable Development Goals](#) (SDGs) (1), the global targets set in the [Comprehensive implementation plan on maternal, infant and young child nutrition](#) (2) and the [Global strategy for women's, children's and adolescent's health \(2016–2030\)](#) (3). The recommendation in this guideline is intended for a wide audience, including policy-makers, their expert advisers, and technical and programme staff at organizations involved in the design, implementation and scaling-up of programmes for anaemia prevention and control, and in nutrition actions for public health. The recommendation supersedes those of previous WHO guidelines on iron supplementation in adolescent girls and adult women where they pertain specifically to daily oral iron supplementation among menstruating adult women and adolescent girls.

Guideline development methodology

WHO developed the present evidence-informed recommendation using the procedures outlined in the [WHO handbook for guideline development](#) (4). The steps in this process included: (i) identification of priority questions and outcomes; (ii) retrieval of the evidence; (iii) assessment and synthesis of the evidence; (iv) formulation of recommendation, including research priorities; and planning for (v) dissemination; (vi) implementation, equity and ethical considerations; and (vii) impact evaluation and updating of the guideline. The Grading of Recommendations Assessment, Development and Evaluation ([GRADE](#)) methodology was followed (5), to prepare evidence profiles related to preselected topics, based on up-to-date systematic reviews.

The guideline development group consisted of content experts, methodologists and representatives of potential stakeholders and beneficiaries. One guideline group participated in a meeting concerning this guideline, held in Geneva, Switzerland, on 20–25 February 2010, where the guideline was scoped. A second guideline group participated in a meeting held in Geneva, Switzerland, on 14–18 March 2011, to discuss the safety of iron supplementation in menstruating adult women and adolescent girls living in areas of high malaria transmission, and a third meeting was convened in Geneva, Switzerland, on 23–26 June 2014, where the guideline was finalized. Three experts served as technical peer-reviewers of the draft guideline.

¹ This publication is a World Health Organization (WHO) guideline. A WHO guideline is any document, whatever its title, containing WHO recommendations about health interventions, whether they be clinical, public health or policy interventions. A standard guideline is produced in response to a request for guidance in relation to a change in practice, or controversy in a single clinical or policy area, and is not expected to cover the full scope of the condition or public health problem. A recommendation provides information about what policy-makers, health-care providers or patients should do. It implies a choice between different interventions that have an impact on health and that have ramifications for the use of resources. All publications containing WHO recommendations are approved by the WHO Guidelines Review Committee.

Available evidence

The available evidence comprised a systematic review (6) that followed the procedures of the [Cochrane handbook for systematic reviews of interventions](#) (7) and assessed the effects of daily iron supplementation in menstruating adult women and adolescent girls. The reviews included individually randomized and cluster-randomized controlled trials. All studies compared a group of non-pregnant adolescent girls and menstruating adult women who received daily oral iron supplementation to a group that did not receive iron. The overall quality of the available evidence for daily iron supplementation in menstruating adult women and adolescent girls was moderate for the critical outcomes of anaemia and iron deficiency. No evidence was available for the outcomes of iron deficiency anaemia and malaria-related morbidity. The WHO Secretariat conducted an additional search for evidence prior to the finalization of the guideline (November 2015), and did not identify any additional relevant studies.

Recommendation¹

Daily iron supplementation is recommended as a public health intervention in menstruating adult women and adolescent girls, living in settings where anaemia is highly prevalent ($\geq 40\%$ anaemia prevalence),² for the prevention of anaemia and iron deficiency (*strong recommendation, moderate quality of evidence*).

Suggested scheme for daily iron supplementation in adult women and adolescent girls

TARGET GROUP	Menstruating adult women and adolescent girls (non-pregnant females in the reproductive age of group)
SUPPLEMENT COMPOSITION	30–60 mg elemental iron ^a
SUPPLEMENT FORM	Tablets
FREQUENCY	Daily
DURATION	Three consecutive months in a year
SETTINGS	Where the prevalence of anaemia in menstruating adult women and adolescent girls is 40% or higher ^b

^a 30–60 mg of elemental iron equals 150–300 mg of ferrous sulfate heptahydrate, 90–180 mg of ferrous fumarate or 250–500 mg of ferrous gluconate.

^b In the absence of prevalence data in this group, consider proxies for high risk of anaemia. For the most recent estimates, visit the WHO - hosted Vitamin and Mineral Nutrition Information System ([VMNIS](#)) (8).

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