Intermittent iron supplementation in preschool and school-age children

It is estimated that 600 million preschool and school-age children worldwide are anaemic, and it is assumed that at least half of these cases are attributable to iron deficiency. Member States have requested guidance from the World Health Organization (WHO) on the effects and safety of intermittent iron supplementation in children as a public health intervention to improve their iron status and reduce the risk of developing iron deficiency anaemia, in support of country efforts to achieve the Millennium Development Goals.

WHO has developed the present evidence-informed recommendations using the procedures outlined in the *WHO handbook for guideline development*. 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 recommendations, including research priorities; and (v) planning for dissemination, implementation, impact evaluation and updating of the guideline. The Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology was used to prepare evidence profiles related to preselected topics, based on up-to-date systematic reviews.

The guideline development group for nutrition interventions, the Nutrition Guidance Expert Advisory Group (NUGAG), comprises content experts, methodologists, representatives of potential stakeholders and consumers. These experts participated in several WHO technical consultations concerning this guideline, held in Geneva, Switzerland, and Amman, Jordan, in 2010 and 2011. Members of the External Experts and Stakeholders Panel were identified through a public call for comments, and this panel was involved throughout the guideline development process. NUGAG members voted on the strength of the recommendation, taking into consideration: (i) desirable and undesirable effects of this intervention; (ii) the quality of the available evidence; (iii) values and preferences related to the intervention in different settings; and (iv) the cost of options available to health-care workers in different settings. All NUGAG members completed a Declaration of Interests Form before each meeting.

In settings where the prevalence of anaemia in preschool or school-age children is 20% or higher, intermittent use of iron supplements is recommended as a public health intervention to improve iron status and reduce the risk of anaemia among children (strong recommendation). In comparison with a placebo or no intervention, the overall quality of the available evidence was found to be moderate for anaemia, low for haemoglobin and ferritin concentrations and very low for iron deficiency. When compared with daily supplementation, the quality of the available evidence for intermittent supplementation with regard to anaemia and haemoglobin and ferritin concentrations was found to be low and for iron deficiency it was very low.