

New World Health Organization guidelines concerning vitamin A supplementation for women and young children.

Introduction

The World Health Organization (WHO) has recently implemented a new process for developing evidence-informed recommendations for health interventions, including public health nutrition programs. Using these revised procedures, the WHO Department of Nutrition for Health and Development issued six new sets of guidelines in August 2011 concerning vitamin A supplementation for women and young children. The focus on vitamin A supplementation was motivated by the fact that an estimated 19 million pregnant women and 190 million pre-school aged children – mostly in Africa and Southeast Asia – are affected by vitamin A deficiency, which contributes to their excess rates of morbidity and mortality. This edition of NNA provides a summary of the new vitamin A supplementation guidelines and comments on their implications for nutrition programs in sub-Saharan Africa.

Methods

The guideline development process is comprised of five steps: 1) identification of priority questions and outcomes; 2) retrieval of scientific evidence on these issues; 3) synthesis and assessment of the available evidence; 4) formulation of recommendations; and 5) dissemination and future evaluation of the resulting guidelines. For the guidelines on vitamin A supplementation, systematic reviews of published and unpublished information were completed and then reevaluated by an external panel of experts, which was convened on two occasions. The specific questions that were addressed are: Should vitamin A supplements be provided to 1) pregnant women (to reduce maternal and infant morbidity and mortality and decrease maternal nightblindness); 2) pregnant women (to reduce the risk of mother-to-child transmission of HIV infection); 3) postpartum women (for the prevention of maternal and infant morbidity and mortality); 4) newborns (to reduce infant morbidity and mortality); 5) infants 1-5 months of age; and 6) infants and young children 6-59 months of age? The reports provide key recommendations and summaries of the supporting information that was available to the review panel.

Results and Conclusions

Each of the specific summary recommendations is listed, as follows. Additional details can be obtained from the full reports, which are available on the WHO web site (<http://www.who.int/elena/en/>).

- 1) Vitamin A supplementation in pregnancy is not recommended as part of routine antenatal care for the prevention of maternal and infant morbidity and mortality. However, in areas where vitamin A deficiency is considered a severe public health problem (i.e., where the prevalence of nightblindness in pregnant women or children 24-59 months of age is $\geq 5\%$), vitamin A supplementation is recommended in pregnancy for the prevention of maternal nightblindness. The recommended dose of vitamin A supplementation during pregnancy is up to 10,000 IU daily OR up to 25,000 IU weekly for at least 12 weeks. Higher doses are contra-indicated because of the risk of vitamin A toxicity.

- 2) Vitamin A supplementation in HIV-positive pregnant women is not recommended as a public health intervention for the prevention of mother-to-child transmission of HIV. Results of existing trials indicate that vitamin A supplementation had no impact on mother-to-child transmission of HIV among children followed up from 3-24 months of age and no effect on maternal or young child mortality.
- 3) Vitamin A supplementation in postpartum women is not recommended as a public health intervention for the prevention of maternal and infant morbidity and mortality. However, the quality of information available concerning maternal outcomes was considered low.
- 4) Vitamin A supplementation in newborns is not recommended as a public health intervention to reduce infant morbidity and mortality. However, it was noted that four ongoing trials of neonatal vitamin A supplementation, which are being conducted in Pakistan, India, Ghana, and Tanzania, will provide additional information that could influence this guideline in the future.
- 5) Vitamin A supplementation in infants 1-5 months of age is not recommended as a public health intervention to reduce infant morbidity and mortality. Existing trials have not found any impact of vitamin A supplementation on all-cause mortality or morbidity due to respiratory infections or diarrhea in this age group, but they did show an increased risk of bulging fontanelles (a transient adverse effect) following supplementation.
- 6) Vitamin A supplementation is recommended for infants and young children 6-59 months of age in areas where vitamin A deficiency is considered a public health problem. High quality evidence indicates that vitamin A supplementation reduces all-cause mortality among children in this range who reside in these settings. The suggested dosing schedule for children in this age range is 100,000 IU vitamin A (provided as oil-based retinyl palmitate or retinyl acetate) on one occasion for infants 6-11 months of age and 200,000 IU vitamin A every 4-6 months for children 12-59 months of age.

Program and Policy Implications

These guidelines recommend continuation of current policies of vitamin A supplementation every 4-6 months for children 6-59 months of age. This recommendation can also be applied in settings with a high prevalence of HIV infection. Vitamin A supplements can be distributed during national service delivery campaigns, such as during mass vaccination programs or "child health days," which have resulted in high levels of coverage in many parts of the world, including Africa (Aguayo, 2007). By contrast, vitamin A supplementation is no longer recommended for women during pregnancy or the early postpartum period to reduce maternal or infant mortality or mother-to-child transmission of HIV. Likewise, vitamin A supplementation is not currently recommended for newborns or infants 1-6 months of age to prevent infant morbidity or mortality, although this recommendation will be reconsidered when the results of ongoing trials become available.

Importantly, these guidelines refer only to preventive supplementation and not to the treatment of clinical cases of xerophthalmia or measles. Present guidelines have not changed for these latter two conditions, and vitamin A supplementation is still recommended.

NNA Editors' Comments*

These guidelines continue to support the use of vitamin A supplementation for children 6-59 months as a key strategy for the prevention of infant and young child mortality in settings where vitamin A deficiency is considered a public health problem. In countries where the primary delivery strategy is via semi-annual child health days, additional strategies may be needed to reach children as soon as they attain 6 months of age.

It is important to recognize that guidelines for pregnant and postpartum women are based only on the effect of vitamin A supplementation on mortality and morbidity outcomes. The present reviews found that maternal supplementation can increase breast milk vitamin A content, hence infant vitamin A intake and status, so this may be another reason to consider maternal vitamin A supplementation in some settings. Also, it should be noted that these foregoing guidelines are designed as public health recommendations, and treating individual women or children based on clinical signs of deficiency or risk of deficiency is up to the medical care provider. Finally, it should be remembered that breast feeding of young children and consumption of a varied diet with vitamin A rich foods by both women and children are the best strategies for avoiding vitamin A deficiency.

References

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World Health Organization. Guideline: Vitamin A supplementation in infants and children 6-59 months of age. Geneva, World Health Organization, 2011.

*These comments have been added by the editorial team and are not part of the cited publication.



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