

# Multi-micronutrient supplements for pregnant women from developing countries

*Summary of a workshop report\**

UNICEF/WHO and the United Nations Universities (UNU) recently convened a meeting to decide upon the composition of a multi-micronutrient supplement for pregnant women from developing countries to be used in effectiveness trials in pilot countries. Besides representatives from UNICEF, WHO and UNU, there were also participants from various universities (John's Hopkins, University College London, University of Southampton, University of California), bilateral agencies and governments (GTZ, Canadian CIDA, USAID), and several NGOs (HKI, Linkages).

## **Context for the meeting**

Apart from a high prevalence of iron deficiency, studies in different developing countries have shown that deficiencies such as vitamin A, zinc, vitamin B12, iodine and folate are also widespread among pregnant women and are known to have a negative impact on pregnancy outcome.

It is widely acknowledged that other micronutrient supplements (apart from iron/folate) should be provided for pregnant women. From a programme point of view it would be efficient to combine different micronutrients into one supplement. Such a multi-supplement specifically designed for women from developing countries does not exist. Current nutritional guidelines on emergency selective feeding programmes advocate iron/folate supplementation of pregnant women and in specific circumstances, supplementation with vitamin C and vitamin A (Eds).

The discussion at the meeting focused on three main issues:

- i) which nutrients should be included,
- ii) at what levels should each nutrient be included,
- iii) whether additional groups besides pregnant women should be targeted with the supplement.

i) The selection of nutrients was based on available evidence of deficiencies, possible consequences of deficiencies for mother and child, weighing of risks versus advantages, and on interaction between nutrients. For some nutrients limited information was available and decisions were based mainly on weighing risks versus advantages. It was decided to use the USA/Canadian RDA (Recommended Daily Allowance) reference as a basis for the amounts included for each nutrient because these were the most recent and best documented reference criteria.

ii) Information about toxicity levels, cost of nutrients, the size of the resulting supplement, and

possible side-effects related to supplement intake were also considered. It was decided to include 15 micronutrients (vit A, D, E, B1, B2, B6, B12, C, Niacin, Folic Acid, Fe, Zn, Cu, I, Se) at the RDA level, except for folic acid which was included at a level of 400 ug. It was proposed that pregnant women should take the tablet on a daily basis as long as possible during pregnancy and that the supplement intake should continue until 3 months post-partum.

iii) Another target group should be adolescent girls in order to improve their micronutrient status before they get pregnant. For the sake of realistic programming it was recommended that adolescent girls should only take the supplement once or twice a week. Another possible target group would be adult refugee women who in situations of severe levels of micro-nutrient deficiency could take as many as two tablets a day for a limited period of time.

It was recognised that many issues related to multi-micronutrient supplements remain to be investigated. Several research topics were identified. These topics included the assessment of risks versus benefits of regular supplement intake in an environment with many disease agents, the factors influencing adherence to tablet intake, and efficacy studies in different populations.

For the moment the tablet is planned for use in at least 11 countries in pilot trials to assess the effectiveness of the tablet. Many indicators to be monitored in the trials were proposed. Among these were: birth weight and length, weight gain during pregnancy, improvement in biochemical micronutrient status, adherence to tablet intake and reported side-effects.

## Reference

\*The report is currently being printed. For further information contact Werner Schultink at: [wschultink@unicef.org](mailto:wschultink@unicef.org)

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