

Issue 65

In a nutshell

Moderate weekly doses of vitamin A supplementation given to pregnant women in developing countries have provided significant improvements in risk of maternal death and night blindness.

These benefits can be obtained through vegetable sources of vitamin A (carotene).

Vitamin A in pregnancy

Arbor Clinical Nutrition Updates 1999 (Apr);65:1-2 ISSN 1446-5450

ARCHIVES

The full list of archived issues can be found at www.arborcom.com/archives/ Some issues of our translated language editions are also available in archive, for Spanish, Portuguese and French.

COPYRIGHT, disclaimer and terms of use

This copy from our archives is for your private use only, and is NOT to be forwarded to any other party. Your use of these Updates constitutes your agreement to our disclaimer and terms of use: see section at the end of this publication.

NUTRITION RESEARCH REVIEW

Study one: Vitamin A and maternal mortality

Preventative vitamin A supplementation of women of childbearing age can improve maternal outcome when the woman falls pregnant, according to a recent study from Nepal.

Subjects: 44,646 married women, of whom 20,119 became pregnant.

Method: The subjects were randomised to receive a weekly dose of either vitamin A or beta-carotene (7000 µg retinol equivalent) or placebo for 3 and a half years.

Results: There was an overall 40% reduction in maternal pregnancy-related death in groups supplemented with the two forms of vitamin A ($p < 0.02$). However, there was reliable difference between the two groups in terms of causes of death. See Table 1.

Ref: West KP et al. Double blind, cluster randomised trial of low dose supplementation with vitamin A or beta carotene on mortality related to pregnancy in Nepal. *BMJ* 1999 Feb 27;318(7183):570-5

Table 1: Relative risk of maternal death (compared to placebo)

	Preformed Vit.A	Carotene
Relative Risk (SD)	0.60 (0.37-0.97)	0.51 (0.30 - 0.86).
	p<0.04	p<0.01

Study two: Vitamin A and maternal blindness

Vitamin A supplementation to women prior to them falling pregnant reduces the incidence of night blindness when they do, according to results from the same research group.

Subjects: 29,000 women from rural Nepal in whom 9,932 first pregnancies occurred.

Methods: The subjects were randomised to receive supplementation or placebo in the same doses as the preceding report.

Results: Vitamin A supplementation reduced the incidence of night blindness during pregnancy and the early post-natal period. See Table 2.

Amongst those women who were highly compliant with the supplementation program, there was a two thirds reduction in the incidence of verified night blindness.

Ref: Christian P et al. Vitamin A or beta-carotene supplementation reduces but does not eliminate maternal night blindness in Nepal. *J Nutr* 1998 Sep;128(9):1458-63

Table 2: Relative risk of maternal night blindness (compared to placebo)

	Preformed Vit.A	Carotene
Pregnancy	0.62 (0.45-0.85)	0.83 (0.63 - 1.11)
3 months post-partum	0.38 (0.26-0.55)	0.77 (0.57-1.04)

Comments

There have been many studies now showing benefits to infants and children from giving prophylactic supplementation with vitamin A.

Some of these studies have reported on what happens when the supplements are given not to the infant directly, but to the mother, whether before, during or when lactating after pregnancy.

Results from these studies have not been uniform. For example, prophylactic mega-dose Vitamin A given to mothers shortly after delivery in India did not improve the incidence of diarrhea and respiratory infection in an Indian study reported in 1996 ¹.

Now the attention in these two latest studies is more on the benefits to the mother. These two results are both from Nepal and the product of a research group based at Johns Hopkins School of Hygiene and Public Health in the USA.

The results are encouraging. Firstly they involve long term, weekly doses at moderate averaged levels close

to RDI for pregnancy.

Secondly, they show that, in terms of benefits to overall mortality, vegetable sources of vitamin A (carotene) are of just as much potential use as pre-formed retinol.

On the other hand, as one might expect, pre-formed vitamin A and not carotene was associated with significant benefits in reducing night blindness.

It was not possible to determine from this study why the vitamin A helped reduce maternal mortality. Obviously the link between vitamin and immune function would be one direction to look in. This is clearly an area with great potential for fruitful research and significant impact on women's health worldwide.

References:

1. Venkatarao T et al. *Effect of vitamin A supplementation to mother and infant on morbidity in infancy. Indian Pediatr.* 1996 Apr;33(4):279-86.

Disclaimer, copyright and terms of use

Your use of these Updates constitutes your agreement to our disclaimer and terms of use which can be found on our web site at: <http://arborcom.com/disclaim3.htm>. You can also obtain the disclaimer and terms of use by emailing us at: upD@arborcom.com.

© Copyright Arbor Communications PTL 1999. All rights reserved. This publication may NOT be forwarded onto others without our written permission.

If you want to receive the Clinical Nutrition Updates on an ongoing basis, please send us a request email to upD@arborcom.com. This is a FREE service to health professionals and students. Include details of your name, email address, which country you live in, institution you are associated with (if relevant) and professional background. The Updates are available in English, Spanish, Portuguese, Italian, French, Korean and Russian