



The Global
Alliance
for Vitamin A



POST-PARTUM VITAMIN A SUPPLEMENTATION (VAS)

Studies show that post-partum vitamin A supplementation (VAS) can result in modest, short-term increases in higher breast milk vitamin A levels, higher infant liver stores and improved maternal and child vitamin A status.

BACKGROUND

Studies show that post-partum vitamin A supplementation (VAS) can result in modest, short-term increases in breast milk vitamin A levels, higher infant liver stores and improved maternal and child vitamin A status^{1,2,3}. These findings led to the initial WHO recommendation in 1997 to give breastfeeding women 200,000 IU of vitamin A within the first six weeks post-partum⁴. Since then, WHO has modified its guidelines. In 2001, WHO recommended giving a higher dose of 400,000 IU, split into two doses of 200,000 IU separated by at least 1 day because the single lower dose showed limited impact on the vitamin A status of infants⁵. In 2011, WHO no longer recommended post-partum VAS as a public health intervention to reduce morbidity or mortality⁶ because it lacked evidence on reducing the risk of illness or death in mothers or their infants^{7,8,9}.

However, many countries that have implemented post-partum VAS in the last 20 years still continue to do so. This “Technical Brief” is intended to assist countries in deciding whether to continue or stop post-partum VAS by summarizing what is known, identifying information gaps and highlighting considerations for policy makers.

KEY MESSAGES

- Based on current evidence, WHO does not recommend post-partum VAS as an intervention for reducing the risk of maternal or infant mortality and morbidity.
- In vitamin A deficient populations, post-partum VAS can be expected to modestly improve the vitamin A concentration of breast milk and the liver stores of breastfeeding infants although these benefits may be short-lived.
- Whether or not a country chooses to continue post-partum VAS, other interventions are needed to improve maternal vitamin A intake and status in settings where maternal vitamin A deficiency and undernutrition are common.

WHAT IS KNOWN

- **1. ALL INFANTS ARE BORN WITH LOW BODY STORES OF VITAMIN A and depend upon vitamin A-rich colostrum and breast milk to meet their physiological need for vitamin A** and other nutrients for proper growth and development¹⁰. The dietary reference intake for lactating women is



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1,300 Qg per day, which is 85% higher compared to non-pregnant and non-lactating women¹¹. This higher requirement for lactating women is needed to ensure adequate vitamin A levels of breast milk because breast milk is the single-most important source of vitamin A for breastfed infants.

→ **2. A WOMAN'S DIETARY INTAKE OF VITAMIN A influences her vitamin A status and the levels of vitamin A in her breast milk.** Studies show that maternal dietary intake is an important determinant of vitamin A status and breast milk vitamin A concentrations¹⁰. Intervention trials show that vitamin A concentrations of mothers and/or their breast milk can be increased by providing low-dose vitamin A or beta-carotene supplements to women before, during, and after pregnancy¹², through food fortification programs¹³ and through food-based interventions¹⁴. Available evidence also suggests that high-dose postpartum supplementation

results in modest, short-term improvements in maternal and child vitamin A status^{2, 15, 16, 17, 18}. The effectiveness of these approaches varies and appears to be influenced by women's underlying vitamin A status; women who are more severely deficient tend to be more responsive to intervention.

→ **3. POST-PARTUM VAS can result in modest, short-term increases in breast milk vitamin A levels, higher infant liver stores and improved maternal and child vitamin A status**^{2, 15, 16, 17, 18}. But the results of studies vary in terms of the duration of benefit on maternal serum or breast milk vitamin A levels, and on infant vitamin A levels, liver stores and prevalence of adequate vitamin A status.

→ **4. POST-PARTUM VAS does not appear to reduce the risk of illness or death in mothers or their infants.** A 2016 Cochrane review on postpartum high dose VAS (200,000 IU) found no evidence that it reduced the risk of maternal or infant mortality, and non-conclusive evidence on its effects on maternal or infant illness¹⁹. Most of the studies reviewed, however, were not designed to measure the impact of post-partum VAS on maternal or infant morbidity and mortality. In one study, postpartum VAS increased the level of an important immune factor (immunoglobulin A or SIgA) found in breast milk, but the study did not investigate its link with improved child health or survival²⁰.



Adequate maternal vitamin A status is vital for ensuring that young breastfed infants receive enough vitamin A to meet their physiologic needs.

INFORMATION GAPS

Information gaps about post-partum VAS remain. Research is needed to assess whether the effects of post-partum VAS vary according to maternal vitamin A status at dosing, the dose (i.e. 200,000 IU, 300,000 IU, or 400,000 IU), and timing of the dose (i.e. immediately after birth or 6-8 weeks after child birth). There remains much to learn about the factors that influence levels of absorption and metabolism of vitamin A, and the best single or combination of bio-markers for measuring the effects of post-partum VAS on maternal and infant vitamin A status and immune function.

CONCLUSIONS

Adequate maternal vitamin A status is vital for ensuring young breastfed infants receive enough vitamin A to meet their physiologic needs. Evidence shows that post-partum VAS can improve maternal vitamin A status, the concentration of vitamin A in the breast milk, and the vitamin A intake and stores of breastfed infants in vitamin A deficient populations. But there is no conclusive evidence that these outcomes translate into lower risks of death or illness among mothers or their infants.

CONSIDERATIONS FOR POLICY-MAKERS

Countries still implementing post-partum VAS need to balance the costs and benefits against available resources and their program goals. In vitamin A-deficient settings and where the cost of the supply of vitamin A capsules is not a barrier, countries may want to continue implementing this intervention to improve short-term vitamin A status in lactating women and breastfed infants.

Based on current evidence, WHO does not recommend post-partum VAS as an intervention for reducing the risk of maternal or infant mortality and morbidity. But, post-partum VAS can be expected to modestly improve the vitamin A concentration of breast milk and the liver stores of breastfeeding infants although these benefits may be short-lived. Whether or not a country chooses to continue post-partum VAS, other interventions are needed to improve maternal vitamin A intake and status in settings where maternal vitamin A deficiency and undernutrition are common.



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