



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 higher breast milk vitamin A levels, higher infant liver stores and improved maternal and child vitamin A status (Villard L, 1987; Stoltzfus R, 1993; Tanumihardjo SA, 1996). These findings led to the initial WHO recommendation in 1997 to give breast feeding women 200,000 IU of vitamin A within the first six weeks' post-partum (WHO, 1997). 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 infants (Ross, J 2002). In 2011, WHO no longer recommended post-partum VAS as a public health intervention to reduce morbidity or mortality (WHO, 2011) because it lacked evidence on reducing the risk of illness or death in mothers or their infants (Oliveira-Menegozzo JM, 2010; Gogia S, 2010; Gogia S, 2011).

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 breast feeding 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 VA intake and status in settings where maternal vitamin A deficiency and undernutrition are common.

WHAT IS KNOWN

→ **1. ALL INFANTS ARE NATURALLY 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 development (Butte, 2002). The dietary reference intake for

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lactating women is 1,300 Qg per day, which is 85% higher compared to non-pregnant and non-lactating women (Institute of Medicine, 2001). 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 breast fed infants.

→ **2. A WOMEN'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 concentrations (Butte, 2002). Intervention trials show that vitamin A concentrations of mothers and/or their breast milk can be achieved by providing low-dose vitamin A or beta-carotene supplements to women before, during, and after pregnancy (West, 2011), through food fortification

programs (Das, 2013) and through food-based interventions (de Pee S, 1998). Available evidence also suggests that high-dose postpartum supplementation results in modest, short-term improvements in maternal and child vitamin A status (Stoltzfus R, 1993; Bahl R, 2002; Vinutha B, 2000; Rice A, 1999; Bhaskaran P, 2000). 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 higher breast milk vitamin A levels, higher infant liver stores and improved maternal and child vitamin A status** (Stoltzfus R, 1993; Bahl R, 2002; Vinutha B, 2000; Rice A, 1999; Bhaskaran P, 2000). 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 illness (Olivera JM, 2016). Most of the studies reviewed, however, were not designed to measure the impact of postpartum VAS on maternal or infant morbidity and mortality. In one study, postpartum VAS increased 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 survival. (Lima, 2012).



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INFORMATION GAPS

Information gaps about post-partum VA remain. Research is needed to assess whether the effects of post-partum VA by maternal VA status at dosing, the dose (i.e. 200,000 IU, 300,000 IU, or 400,000 IU), and timing (i.e. immediately after birth or 6-8 weeks after child birth) of the dose. 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 VA status and immune function.

CONCLUSIONS

Adequate maternal vitamin A status is vital for ensuring young breast-fed 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 breast fed 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 breast feeding 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 VA intake and status in settings where maternal vitamin A deficiency and undernutrition are common.

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