

Additional vitamin A supplementation as a measure to reduce mortality and morbidity of newborn with very low weight at birth.

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Vitamin A is necessary for provision of normal growth of lungs and development of epithelium cells of respiratory tract. It is noted that preterm newborns has low level of vitamin A content that increases the risk of development of chronic lung diseases. It has been conducted several trials to assess the effectiveness of additional supplementation of vitamin A to the group of preterm newborns with very low weight at birth (not counting supplementation of usual multivitamin medicines).

Aim.

To assess the benefits of additional supplementation of vitamin A to newborns with VLWB.

Selection criteria.

Randomized controlled trials that compare the effect of additional vitamin A supplementation and the standard schedule of vitamin A supplementation to newborns with weight at birth < 1500 g, if clinical outcomes have been mentioned (death, frequency of CLD or BPD), as well as vitamin A concentration.

Results.

7 trials have been found that correspond to selection criteria. Meta-analysis has shown that additional supplementation of vitamin A reduced the need of preterm newborns in oxygen to 1 month and 36 weeks of conceptual age, and the frequency of nosocomial sepsis and mortality. Meta-analysis of 3 trials that assessed the frequency of retinopathy has shown its reduction in the group of additional supplementation of vitamin A.

Conclusions.

Additional supplementation of vitamin A to newborns with VLWB reduces to small extent the mortality and need in additional O₂ in 1 month and 36 weeks of post-menstrual age (mainly, among newborns with < 1000 g weight at birth), frequency of nosocomial sepsis and retinopathy of preterm newborns.

It is proposed to count as vitamin A deficit its concentration in plasma lower than 200 mcg/l (0.70 mcg/l).

Trials don't give an answer what dose of vitamin A is the most effective and which route of introduction is better (intramuscular or intravenous). But one trial, where vitamin A was introduced orally, has found no positive result.

List of reference included into analysis.

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