MISCELLANEOUS

Insufficient vitamin D supplement use during pregnancy and early childhood: a risk factor for positional skull deformation

Background

Vitamin D insufficiency during pregnancy is associated with disturbed skeletal homeostasis during infancy. Weernink and coworkers from Enschede, Netherlands aimed to investigate the influence of adherence to recommendations for vitamin D supplement intake during pregnancy and in the first months of child's life on the occurrence of positional skull deformation of the child at the age of 2 to 4 months.

Summary of results

An observational case-control study compared 275 children with positional skull deformation at 2-4 months with 548 matched controls. Background characteristics and vitamin D intake were assessed via questionnaire. Insufficient vitamin D supplement intake of women during the last trimester of pregnancy (aOR 1.86, 95% CI 1.27-2.70) and of children during early infancy (aOR 7.15, 95% CI 3.77-13.54) were independently associated with an increased risk of skull deformation during infancy.

Strength

The authors had access to a large and well-defined case group. Skull deformation was assessed by plagiocephalometry – though only a two-dimensional method, at least a standardised and reliable measurement.

Limitations

Important limitations of this study were the low precision of measurement of the intake of vitamin D (questionnaire) and the lack of measurement of vitamin D status as well as a possible sampling and information bias caused by the case–control design of this study.

Practical conclusion

These findings suggest that non-adherence to recommendations for vitamin D supplement use by pregnant women and infants are associated with a higher risk of positional skull deformation in infants at 2 to 4 months of age. Data can be used to inform women in pregnancy and early maternity about the importance of vitamin D supplementation.

Weernink, M. G.M., et al. (2014), Insufficient vitamin D supplement use during pregnancy and early childhood: a risk factor for positional skull deformation. Maternal & Child Nutrition. doi: 10.1111/mcn.12153

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