

Dietary reference values for vitamins and minerals for infants and children

executive summary



The Health Council of the Netherlands has derived new dietary reference values (DRVs) for vitamins and minerals for infants aged 7 to 11 months and children aged 1 to 17 years. This advisory report is a partial advisory report within the scope of the evaluation of the Dutch DRVs.

The Health Council considers harmonisation of DRVs across the European Union preferable. Accordingly, the Council's committee on Dietary Recommendations for Breastfeeding Women and Young Children has evaluated whether the European Food Safety Authority's (EFSA) DRVs could be adopted for the Netherlands.

Derivation of dietary reference values for infants and children

The nutrient requirement corresponds to the intake that prevents symptoms of deficiency and minimises the risk of chronic diseases. For many nutrients, data on nutrient requirements of infants and children are lacking. Only for a few nutrients studies have been conducted specifically in infants and children. Therefore, DRVs for these age groups are often extrapolated from the values for adults. For infants aged 7 to 11 months, DRVs may also be extrapolated from the estimated nutrient

intake via lactation of younger infants. For extrapolation of DRVs, assumptions are made on, among other things, body weight. For assumptions on body weight, the committee used the Dutch reference weights.



EFSA's method of derivation accepted in almost all cases

The committee has examined whether there were serious objections to the methodology used by EFSA for deriving the DRVs for infants and children. If relevant, the committee also examined other leading international reports on DRVs. The committee concludes that EFSA's methodology could be adopted in almost all cases. Compared to the Dutch DRVs that were valid up until now, there are several shifts, both upwards and downwards. This is due to modifications in derivation methods, age categories, and reference weights.

Not all DRVs are in practice relevant for public education on nutrition and monitoring of dietary intake in the Netherlands. Of some, the

substantiation is very limited and deficiencies of these nutrients in the Netherlands do not appear to be present.

Sometimes another type of reference value is recommended for use in the Netherlands

With extrapolation, there is considerable uncertainty about the nutrient requirement due to the assumption about the association of the requirement with body weight and the significant differences between children in terms of growth and timing of growth spurt. The uncertainties surrounding the values of the DRVs are therefore greater for children than for adults. Because of these uncertainties, the committee derived adequate intakes for most nutrients – which in some cases differs from EFSA. This type of DRV is chosen if the nutrient requirement is difficult to determine. This is in line with what the Health Council has done so far regarding DRVs for infants and children.

Not for all nutrients reference values were set

As in adults, there are 2 minerals for which no DRVs have been derived for infants and children in the Netherlands: chromium and fluoride.

For chromium this is the case because it is unclear whether chromium is an essential nutrient. Also, fluoride is not considered an essential nutrient. Because of the local effect of fluoride on the prevention of caries, in the Netherlands oral hygiene products contain fluoride. Therefore, a DRV is not needed for fluoride. For sodium and chloride, there are no DRVs in the

Netherlands either. Sodium and chloride are, as sodium chloride, part of the Dutch dietary guidelines.

Considerations when using dietary reference values for infants and children

DRVs are derived for healthy infants and children with a healthy weight (who are not pregnant or breastfeeding). DRVs for vitamins and minerals are relevant for public education on nutrition, for example from the Netherlands Nutrition Centre. Furthermore, healthcare professionals, such as dietitians and pediatricians can use these DRVs to advise individuals on healthy eating habits or diets. DRVs are also used by the Institute for Public Health and the Environment to monitor the nutrient intake of the Dutch population. DRVs are important for establishing a healthy diet, but if a child's intake is lower than the DRV, it does not necessarily mean that this specific child's intake is insufficient.

Additional data are needed to determine that, for example, growth data or blood tests.

This publication can be downloaded from healthcouncil.nl.

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