Good nutritional advice

A balancing act between evidence and common sense

"A purely vegan diet without consistent supplementation, for example with vitamin B_{12}, is not recommended for children and adolescents," Prof. Dr. Silvia Rudloff, a nutritional scientist at the Justus Liebig University Giessen (Germany), stated at a symposium in Munich. A balanced ovo-lacto vegetarian diet, however, is not considered to be problematic. According to Dr. Isabelle Mader, Pfaffenhofen (Germany), a step-by-step concept for infancy and toddlerhood developed by HiPP might prove to be useful in the critical phase of weaning.

According to Dr. Hermann Kalhoff, a senior paediatrician at Klinikum Dortmund (Germany), paediatricians who want to give their patients, or rather their patients' parents, good nutritional advice are faced with the following dilemma: Due to a lack of hard scientific evidence and scientific studies, doctors can only rely on common sense recommendations in many areas of nutritional medicine. With this in mind, any initiatives by food manufacturers to create a better scientific foundation by means of appropriate research are very welcome.

Vegetarian diets: No problem! Or is it?

Due to the increase in people opting for a vegan/vegetarian diet, also amongst children and adolescents (see text box), the question of whether such diets pose a health risk is becoming more important. According to Dr. Rudloff, however, this question cannot be answered with absolute certainty. Based on the results of the "VeChi Study", which has not yet been fully evaluated, the nutritional scientist deems the risk of vegetarian/vegan diets during infancy as not being too high[1]. In this study, 139 vegetarian, 127 vegan and 164 omnivorous children aged between one and three years were compared in terms of growth as well as protein and energy intake. The results showed no significant differences in these areas. However, 3.6% of the children in the vegan test group were underweight and 3.6% were too small according to WHO standards. The data regarding minerals and micronutrients that potentially influence a child's growth and development, such as calcium, zinc and iron, are still being evaluated. Dr. Rudloff points out that the interpretation of the results, as in other studies, is complicated by the fact that, compared to the average population, the study groups consist of a disproportionately large number of families with a special and above-average interest in nutrition. Another fact that needs to be considered is that every second one of the "vegan" children was still breastfed. In regard to voluntary food restrictions, Dr. Rudloff recommends that vegetarians and vegans should keep a close eye on the following nutrients and potential deficiencies:

- iodine and long-chain omega-3 fatty acids in cases where fish is not consumed
- iron, zinc and proteins in cases where meat and eggs are not consumed

Enlightened vegetarians

According to the results of the EsKiMo II study carried out between 2015 and 2017, the proportion of vegan children between 6 and 17 years of age had risen from 1.6% in 2006 to 3.3%[3]. Currently, 4.9% of girls and 1.7% of boys are vegetarian. According to Prof. Dr. Silvia Rudloff, from Gießen (Germany), vegetarians, compared to the average population, are disproportionately well educated, come from families with a high socio-economic status, do more sports and are more likely to use nutritional supplements. This makes it difficult to interpret a study on the potential health risks of a vegetarian diet. In conclusion, it is essential for a "healthy vegetarian diet" during childhood that parents and their children are well informed and that they are appropriately supervised by a paediatrician.

"Germans eat too much meat."

Prof. Dr. Silvia Rudloff, Justus Liebig University Giessen (Germany)

You can download consultation materials on vegetarian nutrition from hipp-fachkreise.de free of charge.

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- calcium, proteins and vitamin B_2 in cases where dairy products are not consumed
- vitamin B_{12} in cases of a purely vegan diet – appropriate supplementation is absolutely necessary

Potential iron, zinc or protein deficiencies cannot be easily avoided because the bioavailability of these nutrients in pulses and/or wholemeal products is significantly lower than in meat products. You can, however, significantly increase the bioavailability of plant-based iron with the addition of vitamin C (e.g. from juice or fruits).

Simple and safe with "optimiX"

In view of the current data, the German Society of Paediatrics and Adolescent Medicine (DGKJ) supports the common sense recommendation for a balanced omnivorous diet with a high intake of plant-based foods and a moderate consumption of meat, sea fish, milk and other dairy products[2]. The diagram below shows the principles of the optimised mixed diet ("optimiX") which Dr. Rudloff promotes. The optimiX diet can be implemented during the first year of life by starting off with a puree made of vegetables, potatoes and meat, recommended for the first stage of weaning at 4 to 6 months of age, which can later be added to with milk cereals as well as fruity cereal purees. The results of a study on the nutritional habits of 6 to 11-year-old children in Germany (EsKiMo), which was presented by Dr. Rudloff, show that they do not consume enough fruits and vegetables while at the same time consuming excessive amounts of meat, sweets and sugary soft drinks.

New EU Regulation on infant and follow-on formula

Based on the current scientific data compiled by the European Food Safety Authority (EFSA)[4], new legal regulations for infant and follow-on formulae will take effect on 22 February 2020[5]. In the case of HA formulae, these regulations will first apply in 2021. Dr. Isabelle Mader, a nutritional scientist working in HiPP's R&D Department in Pfaffenhofen (Germany), reports that according to this piece of European legislation (EU Regulation 2016/127), all infant and follow-on formulae must contain the long-chain unsaturated omega-3 fatty acid docosahexaenoic acid (DHA). The addition of arachidonic acid (ARA) continues to be optional. Another change is that formulae with a reduced protein content (>1.8 g/100 kcal) no longer need an underlying safety study. The addition of hydrolysed protein, however, still requires proof of safety and efficacy. Furthermore, manufacturers must stay abreast of changes regarding the min./max. levels of certain vitamins and minerals.

Needs-based step-by-step concept

According to Dr. Mader, a nutritional concept specially developed by HiPP not only meets the requirements of the new EU Regulation, but even exceeds it when it comes to one important aspect. While the EFSA-based nutrient content guidelines consistently refer to the content in breast milk as a reference and therefore do not distinguish between infant and follow-on formulae, HiPP takes a different approach for the following reason: In the critical first stage of weaning, when infants are between 4 and 6 months of age, they often do not eat more than a few spoonfuls of the as yet unfamiliar food. This means that a nutrient supply equivalent to that from infant formula may pose the risk of an inadequate supply when compared to the nutritional benchmarks. The HiPP step-by-step concept takes this into account, which is why follow-on formula contains more of certain nutrients such as iron, calcium, vitamin B_6 or niacin. It also takes the ideal ratio of iron to vitamin C into account and contains less vitamin K than infant formula.

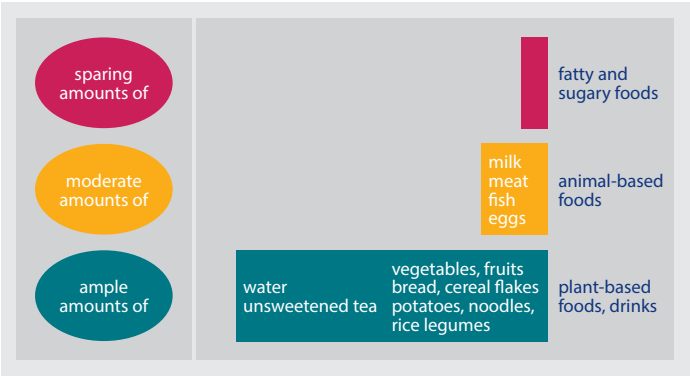

Fig. 1: The principles of the optimised mixed diet for infants, children and adolescents (optimiX) [2]

"In the critical first stage of weaning, follow-on formula can contribute significantly to the right supply of nutrients."

Dr. Isabelle Mader, Pfaffenhofen (Germany)

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