Sociedade Vegetariana Brasileira

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VEGETARIANISM IN PEDIATRICS

OFFICIAL STATEMENT FROM THE BRAZILIAN VEGETARIAN SOCIETY (SVB)

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Adopting vegetarianism (including its strict form which abstains from consumption of any animal byproducts such as eggs and dairy) is a healthy practice for children when food planning is involved, as it should be for any type of diet, including omnivorous.

Scientific literature showed growth and developmental problems in vegetarian children only when there was no meal plan established by health professionals, thus generating inadequacies that could lead to deficiencies even if animal products and byproducts were present. In this sense, in several cases the publications confused vegetarianism with macrobiotic, a food system that is not necessarily vegetarian and that tends to present lower energy density and greater food monotony, favoring low energy (and as a result protein) intake for children with food selectivity [1-4].

Among several publications, one of the published studies presents four case reports that went to trial in English Court related to malnutrition complaints in four children, pointing to the adoption of a vegetarian diet as the cause and perceiving it as a form of child abuse. Tutors of three of the four children chose to follow the vegetarian diet with nutritional supervision, which provided adjustments to appropriate nutritional conditions [5]. This demonstrates that adopting vegetarianism with nutritional intervention can be fully secure.

All studies that presented problems related to the adoption of vegetarianism during childhood were not due to the exclusion of meat or dairy products, but to errors in the dietary structure that did not constitute a vegetarian meal plan.

Studies with meal plans (and supplemented vitamin B12) show that vegetarian / vegan children had adequate growth and development, without any reduction in the speed of growth when compared to omnivores [6-12], including an excellent intelligence quotient (which exceeded the chronological average by 1 year) [13].

Insecurity in the recommendation of vegetarianism occurs simply because studies of revision do not differentiate between good and poorly planned diets, making some authors arrive at contradictory results on its safety [14, 15].

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The practice of vegetarianism during childhood is endorsed by international entities such as the American Academy of Nutrition and Dietetics [16], the Canadian Paediatric Society [17] and the Italian Society of Human Nutrition [18], because they have no doubt that with proper planning, it is safe.

Based on the scientific literature available and analyzing the food errors that occurred in publications on the topic, the precautions that should be taken while rearing a vegetarian child are:

1) Do not replace breast milk with homemade vegetable milk.

This practice was instituted by macrobiotic feeding and consisted of using a mixture of grains called "kokkoh", consisting of rice, wheat, oats, beans and sesame flour to replace breast milk. This conduct introduces inadequacies in the supply of macro and micronutrients to the baby and shouldn´t be used.

If breast milk cannot be used, SVB advises that the vegetarian baby should receive industrialized formulas that substitute breast milk. For vegan families the protein source must be other than cow's milk, option already available on the Brazilian market. This ensures an adequate supply of macro and micronutrients since they are designed according to children's needs and based on Codex Alimentarius.

2) Do not stop breastfeeding before 6 months.

This practice was seen in spiritualist communities where the group leader recommended the suspension of breastfeeding at 3 months of age and its replacement with homemade vegetable drinks containing vegetables, fruits and soy, causing severe malnutrition [19].

SVB's recommendation is that exclusive breastfeeding should be maintained until 6 months of age and be continued until at least 2 years of age (along with the food introduced at 6 months of age), as directed by recognized pediatric entities in Brazil and throughout the world. If it is not possible to use breast milk, industrialized substitute formulas should be used.

3) Do not maintain exclusive breastfeeding for a long time.

There are reports of families that used exclusive breast milk (without the introduction of other foods at 6 months of age) for over one year, causing nutritional problems in babies.

SVB advises that the vegetarian baby's food introduction should occur in the same period recommended for omnivores: starting at 6 months of age.

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4) Do not over-restrict intake of good quality fat.

Older publications point to vegetarian groups that offered babies diets poor in fat, causing a reduction in the energy density of the diet and, thus, insufficient caloric intake.

Products that are more concentrated in saturated and trans fats should be avoided, such as butter, curd, processed products and, in the case of vegetable fats, coconut, palm and margarine.

There is no evidence to suggest that conversion of omega-3 to its active forms (EPA and DHA) is limited in vegetarian groups, but it is important to reduce the intake of omega-6 and increase omega-3 intake so that the proportion between them favors the formation of DHA [20], an important element in the development of the child's retina and central nervous system. Alternatively, the DHA itself can be offered to the child.

The same attention should be given to the omnivorous child, as the animal source most concentrated in omega-3 is fish, a product not always used by Brazilian families.

SVB advises that there should be no restriction on foods with better quality fats (omega-3, 6 and 9, but with less omega-6) in the diet of children up to 2 years of age, aiming to optimize the energy supply and offer of essential fatty acids.

There should always be the supply of omega-3 (flaxseed, chia, walnut) or the use of DHA from algae, product already available in the Brazilian market.

The proportions of fat in the diet should be guided by a nutritionist or pediatrician during medical and nutritional care.

5) Prioritize the consumption of healthy grains, legumes and fats instead of vegetables.

The choice of vegetables in the diet is equivalent to a healthy choice, but they are higher volume foods with low energy density. The child, due to a greater need for energy per kilogram of weight and less gastric capacity in relation to his/her energy needs, when compared to adults, must consume a lower proportion of vegetables when adopting a vegetarian diet (especially strict) to prioritize a higher consumption of plant foods with higher energy density, such as cereals and legumes, with the possibility of adopting oilseeds and added oil.

SVB advises that the base of the plates used in the food introduction be composed of: 1/3 of the volume of cereals, 1/3 of legumes and 1/3 of vegetables. To this mixture, a food source of omega-3 must be added such as flaxseed oil or chia, which may or may not be mixed with olive oil, as assessed by the pediatrician or nutritionist accompanying the baby.

In this composition, by reaching the child's energy requirement the protein requirement is surpassed with a wide safety margin. Studies showing deficiency in vegetarian children occurred only when there was a restriction of calorie intake due to food restriction, and not because the protein used was from a vegetable source.

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6) Do not neglect the use of vitamin B12.

Although its deficiency is almost equivalent in vegetarian [21] and omnivorous [22] populations, the attention is greater in vegetarian groups and cannot be neglected, as has been the case in case reports of vegetarian mothers who did not supplement it during pregnancy and did not offer it to the baby during his/her growth and development, causing neurological damage (not always reversible).

SVB recommends that vitamin B12 should always be prescribed to children in doses equal to or greater than those recommended by the DRIs, according to the pediatric evaluation of the mother and baby since the beginning of food introduction.

7) Pay attention to the baby's calcium and zinc needs.

The non-use of dairy products requires vegetable sources of calcium of good availability and greater concentration.

In addition to breast milk and its substituted industrialized formulas, after one year of life there are calcium-fortified vegetable drink options, offering 240 to 400 mg of calcium for 200 ml.

Leafy greens with a higher concentration of calcium and lower oxalate (an element that inhibits the absorption of mineral), such as kale, arugula, watercress, parsley and mint, offer about 130 mg of calcium in 100 grams of raw product (1 large dish), and broccoli, 85 mg per 100 grams, with bioavailability higher than that of cow's milk. The use of leafy greens in green juice or sauteed help to reduce volume and optimizes the concentration of the mineral for consumption. It is important to advise parents that the volume of leafy greens needed to obtain good amounts of calcium is high and its choice as the only source to obtain this nutrient will be insufficient.

Sesame (825 mg of calcium per 100 g [23]) and chia (631 mg of calcium per 100 g [24]) are interesting sources of this mineral.

SVB advises the professional accompanying the vegetarian to honor the amounts recommended by the DRIs and add the products used in the diet so that the dietary calcium reaches the values recommended for each age.

The need for zinc can be met with the use of cereals and legumes (products that constitute the basis of the vegetarian nutrition during childhood). It is necessary to soak the beans in water for at least 8 hours before cooking in order to reduce the content of phytic acid, as this increases its bioavailability. Studies are inconsistent in trying to demonstrate that vegetarians have increased risk of deficiency when compared to omnivores [25]. If there is a need for additional nutrients, the use of supplementation may be instituted.

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8) Pay attention to additional nutrients the omnivore needs to supplement.

Due to factors unrelated to food, some nutrients must be supplemented for omnivorous children. This is the case of iron (consumed by the body for rapid tissue growth), vitamin D (due to reduced exposure to sunlight) and iodine (a product already fortified in Brazilian table salt).
SVB recommends maintenance of iron and vitamin D supplements (in the form of D2 or D3 from lichen in the case of vegan families) for the vegetarian child in the same way it is oriented to omnivorous.

It is important to note that the use of animal-based sources of iron doesn't meet the needs of even omnivorous children, so supplementation is recommended. In comparative terms, a cut of iron-rich red meat, such as lean grilled filet mignon, contains 1.9 mg of iron [23]. The biggest part of the supplements available on the Brazilian market, for infant use, contains 2.5 mg of the mineral per drop. A child using 10 drops of iron supplement per day would have to eat the equivalent of 1.3 kg of filet mignon per day to obtain the same amount of the mineral, which would be impractical.

São Paulo, September 10th, 2020

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