CIÊNCIAS DA VIDA E DA SAÚDE
LIFE AND HEALTH SCIENCES
CIENCIAS DE LA VIDA Y LA SALUD

millenium

Millenium, 2(23)

en

NOVAS TENDÊNCIAS NA DIVERSIFICAÇÃO ALIMENTAR DO LATENTE VEGETARIANO: DA EVIDÊNCIA À PRÁTICA CLÍNICA
NEW TRENDS IN VEGETARIAN LATENT FOOD DIVERSIFICATION: FROM EVIDENCE TO CLINICAL PRACTICE
NUEVAS TENDENCIAS EN LA DIVERSIFICACIÓN ALIMENTARIA DE LOS VEGETARIANOS LATENTES: DE LA EVIDENCIA A LA PRÁCTICA CLÍNICA

Joana Miranda[1] *https://orcid.org/0009-0004-1857-4026*
Liliana Borges[2] *https://orcid.org/0000-0003-4996-45*
Celeste Godinho[1] *https://orcid.org/0000-0001-9206-7699*

[1] Instituto Politécnico de Santarém, Escola Superior de Saúde de Santarém, Santarém, Portugal
[2] Agrupamento de Centros de Saúde do Médio Tejo (ACES Médio Tejo), Unidade de Saúde Familiar Almonda - Pólo Olaia, Torres Novas, Portugal

Joana Miranda 180400006@essaude.ipsantarem.pt| Liliana Borges – liliana.borges@arslvt.min-saude.pt |
Celeste Godinho - celeste.godinho@essaude.ipsantarem.pt

Corresponding Author
Joana Miranda
Quinta do Mergulhão Srª da Guia
2005-075 – Santarém - Portugal
180400006@essaude.ipsantarem.pt

RECEIVED: 04th July, 2023
REVIEWED: 23th October, 2023
ACCEPTED: 22th November, 2023
PUBLISHED: 14th December, 2023

DOI: https://doi.org/10.29352/mill0223.31947

RESUMO

Introdução: A alimentação é um forte determinante em saúde e um ato de expressão de carinho. A par de um vasto conjunto de atualizações na diversificação alimentar no latente, assiste-se a uma mudança paradigmática e cultural, surgindo novas tendências alimentares nas dietas familiares. Existem também evidências dos benefícios para a saúde do consumo de alimentos de origem vegetal e para a sustentabilidade do planeta.
Objetivo: Após necessidade identificada na prática, este estudo teve por objetivo sistematizar as perspetivas dos profissionais de saúde na diversificação alimentar do latente vegetariano, sustentando medidas na melhoria da qualidade dos cuidados.
Métodos: De acordo com os princípios metodológicos de uma revisão sistemática, foram utilizadas as plataformas EBSCO e PUBMED, com base no protocolo PRISMA, sendo aferidos os termos como descritores MesH Browser, do qual se extraíram 13 artigos.
Resultados: Com esta revisão foi possível mapear a evidência científica atual e identificar paralelismos entre os estudos encontrados, normas das entidades de referência europeias e a prática clínica, promotores de uma intervenção de enfermagem mais sustentada.
Conclusão: Os resultados obtidos constituem relevância para melhor capacitar as famílias, por profissionais especializados e detentores de formação adequada. É importante a produção de mais conhecimento, com ênfase no planeamento e acompanhamento da dieta, no sentido da mitigação de riscos de carências nutricionais (suplementação adequada e individualizada), que poderão comprometer o desenvolvimento da criança.

Palavras-chave: profissionais de saúde; dieta vegetariana; primeira infância; desenvolvimento infantil

ABSTRACT

Introduction: Food is a strong determinant of health and an act of expression of affection. Alongside a vast array of updates in latent food diversification, we are witnessing a paradigm and cultural change, with new food trends emerging in family diets. There is also evidence of the health benefits of consuming plant-based foods and for the sustainability of the planet.
Objective: After a need identified in practice, this study aimed to systematize health professional's perspectives on the dietary diversification of latent vegetarians, supporting measures to improve the quality of care.
Methods: According to the methodological principles of a systematic review, the EBSCO and PUBMED platforms were used, based on the PRISMA protocol, and the terms were measured as MesH Browser descriptors, from which 13 articles were extracted.
Results: With this review, it was possible to map the current scientific evidence and identify parallels between the studies found, the standards of the European reference entities, and clinical practice, which promote a more sustained nursing intervention.
Conclusion: The results obtained are relevant to better empower families, by specialized professionals and holders of adequate training. It is important to produce more knowledge, emphasizing diet planning and monitoring, in order to mitigate the risks of nutritional deficiencies (appropriate and individualized supplementation), which could compromise the child's development.

Keywords: health professionals; vegetarian diet; early childhood; child development

RESUMEN

Introducción: La alimentación es un fuerte determinante de la salud y un acto de expresión de afecto. Junto a una amplia gama de actualizaciones en la diversificación alimentaria latente, estamos asistiendo a un cambio de paradigma y cultural, con nuevas tendencias alimentarias emergentes en las dietas familiares. También hay evidencia de los beneficios para la salud del consumo de alimentos de origen vegetal y para la sostenibilidad del planeta.
Objetivo: Después de una necesidad identificada en la práctica, este estudio tuvo como objetivo sistematizar las perspectivas de los profesionales de la salud en la diversificación dietética de vegetarianos latentes, apoyando medidas para mejorar la calidad de la atención.
Métodos: De acuerdo con los principios metodológicos de una revisión sistemática, se utilizaron las plataformas EBSCO y PUBMED, con base en el protocolo PRISMA, siendo medidos los términos como descriptores MesH Browser, de los cuales se extrajeron 13 artículos.
Resultados: Con esta revisión, fue posible mapear la evidencia científica actual e identificar paralelismos entre los estudios encontrados, los estándares de las entidades europeas de referencia y la práctica clínica, que promueven una intervención de enfermería más sostenida.
Conclusión: Los resultados obtenidos son relevantes para una mejor formación de las familias por parte de profesionales especializados y con la formación adecuada. Es importante producir más conocimiento, con énfasis en la planificación y el seguimiento de la dieta, con el fin de mitigar los riesgos de deficiencias nutricionales (suplementación adecuada e individualizada), que pueden comprometer el desarrollo del niño.

Palabras clave: profesionales de la salud; dieta vegetariana; primera infância; desarrollo infantil

DOI: https://doi.org/10.29352/mill0223.31947

INTRODUCTION

Healthy eating is a fundamental factor for the integral and harmonious development of all individuals and, in particular, of children. In the infant life phase, the period during which the introduction of foods other than milk (breast or infant formula) occurs, simultaneously with the gradual reduction of milk intake and until the introduction into the family diet model, is called "food diversification" (Fewtrell et al, 2017). According to a study conducted on the scope of Food and Growth, with children in the first years of life, primary healthcare professionals were responsible for advising on food diversification in 50% of children (EPACI, 2012).
Mainly, during food diversification, the food supply should be based on variety and quality. The importance of nutrition in programming, not only of taste and preferences (behavior programming) but also of future health/disease (metabolic programming), justifies the choice of healthy foods and the non-inclusion of processed foods or foods with added sugar or salt during the 1st year of life (Pimentel et al, 2018).
Currently, it is assumed that there is a change regarding the development of strategies for the promotion of a healthy diet that will have implications for the health status of the population but also related to another sensitive issue: the sustainability of our planet. It depends mainly on the management of resources to meet the current and future needs of man. FAO (2015), defines a sustainable diet that has a low environmental impact and contributes to the food and nutritional security of the population, as well as to their health status, both in the present and in the future. They protect and respect biodiversity and the ecosystem. For example, the Mediterranean diet can be an alternative, but also the adoption of alternative regimes, as they have a positive impact on the Planet (APN, 2017). It should be noted that from the first months of life, implementing good healthy eating habits will have their maximum expression in the future.
According to Ferreiro et al (2019), it is estimated that in Europe, 1.2% to 1.5% of the population follows a vegetarian diet, and in Germany no more than 1%; in Portugal and Spain, these percentages rise to 7% of the population, as well as in the United Kingdom. The same study also reveals that there is a growing number of parents who practice and want the infant to practice other diets, namely vegetarian. Basulto et al (2021) add that a vegetarian diet tends to be more sustainable and reduces environmental impact. From a cultural point of view, a sustainable diet is accepted, nutritionally adequate, accessible by the population, safe, and economically just. However, this does not imply that a vegetarian diet is sustainable or that an omnivorous diet is not sustainable, because a sustainable diet beyond the environmental impact is the reflection of nutritional adequacy, food culture, and accessibility (APN, 2017).
There are different types of vegetarian diets, according to Pimentel et al (2018), taking into account the foods that include it: vegan diet (total exclusion of the intake of foods of animal origin and their derivatives); lacto vegetarian diet (allows the intake of milk and its derivatives); vegetarian egg diet (allows consumption of eggs) and ovolactovegetarian diet (allows consumption of milk and its derivatives and eggs). These diets have a reduction in the content of proteins of high biological value, present in products of animal origin, and it is essential that it is supported by professionals with knowledge in the area of food (APN, 2017). It should be noted that according to the APN (2017), this regime consumes a large amount of vegetables, fruits, whole grains, and their derivatives and tubers, which have a lower environmental impact.
According to a study conducted by Nielsen (2017), the number of vegetarians in Portugal has quadrupled in 10 years. It also reveals that there is a growing number of parents who practice and want the infant to practice these diets, which leads to the need to know how to adapt, with the maximum possible safety, the infant's diet to a non-omnivorous diet (DGS, 2015).
Basulto et al (2021) report that the available scientific articles on vegetarian eating have tripled in the last 20 years, although they still do not produce enough consistency to claim that a vegetarian diet is healthier and prevents more chronic diseases.
Studies have been improved, proving the benefits of consuming products of plant origin, assuming that an exclusively vegetarian diet, when well planned, can meet all the nutritional needs of a human being and can be adapted to all phases of the life cycle (Baroni et al, 2018); However, when not planned and adequately monitored and supplemented, it can put health at risk, particularly at certain stages of the life cycle, such as childhood or pregnancy. The adoption of a vegetarian eating pattern requires knowledge, training in the confection, and some time for a proper assimilation of some food principles. Namely to obtain an adequate amount of vitamins (such as vitamin B12), minerals (such as iron), fat (omega-3), and proteins. On the other hand, the rejection of animal products from the diet, in whole or in part, does not imply that it automatically becomes healthier.
ESPGHAN and the Portuguese Association of Nutrition (APN) consider it possible to carry out a vegetarian diet during the 1st year of life (Fewtrell et al, 2017), provided that it follows nutritional supervision and guidance. Food diversification in a vegetarian diet is based on a commitment to energy supply, in macro and micronutrients, in direct proportion to their degree of restriction. In a newborn/infant, the child of a vegetarian mother, breastfeeding, and maternal supplementation in vitamins and minerals should be strictly monitored, infant supplementation should be carried out and the mother should be made aware that her regimen does not affect only her. After six months of age, an exclusively dairy diet does not meet, by itself, the energy needs and some micronutrients (iron, zinc, B vitamins among others), making it necessary to introduce other foods.
The Vehicle Diet Study conducted in Germany concluded that a vegetarian diet provides amounts of energy and macronutrients according to recommendations and ensures adequate growth. Publications also show that vegetarian diets can lead to low intakes of calcium, vitamin D, zinc, iron, and fatty acids. Omega 3 and vitamin B12 (Basulto et al, 2021). Thus, the more restrictive the diet,

DOI: https://doi.org/10.29352/mill0223.31947

the greater the risk of nutritional deficiencies with repercussions on the growth, maturation, and development of the child, and the recommended vitamin and mineral supplementation should be strictly adhered to.

In general, and compared to an omnivorous, healthy, and balanced diet, vegetarian diets provide a higher content of carbohydrates, fiber, omega-6 polyunsaturated fatty acids (PUFA), carotenoids, folic acid, vitamin C, and magnesium. However, it is worth noting the risk of energy and nutrient deficit, namely proteins (particularly in terms of essential amino acids), omega-3 PUFA, vitamins A (retinol), B2 (riboflavin), B12 (cobalamin) and D (calciferol), and minerals such as iron, zinc, calcium, and iodine (Pimentel et al, 2018).

The family is the place where the child seeks the example, the references, the habits and the rules, and it is up to the parents to transmit good eating habits (DGS, 2015). The food offered in early childhood will have a direct impact on the health of the child, as it is one of the protective factors and interferes with the growth and development of the same. Thus, it is up to health professionals endowed with knowledge, to train families at this stage with scientifically appropriate and at the same time understandable language. Thus, the planning of food diversification, the surveillance of growth and development, and the planning of the supplementation of the infant in vitamins and minerals should be carried out by properly trained and experienced health professionals. Pimentel et al (2018) add that it is also fundamental not to disregard the following assumptions: the neuromotor, gastrointestinal, and renal maturity of the infant, which will influence the beginning of the food diversification process. In addition to this aspect, in order to proceed with the early training of the palate and textures, taking into account cultural habits and individual experiences, first foods will be introduced in cream and with subsequent increase of textures. In addition to the discovery of new textures and flavors, Basulto et al (2021) add as basic norms of adequate diversification the option for "simple and little processed food, let the child participate in the experience of feeding and that it is the appetite of the same to define quantities and schedules".

Considering these assumptions and classic recommendations, as well as the most current literature, we proceeded to the methodological design of this article, focusing on the intervention of health professionals in this area.

1. METHODS

Due to the need identified in clinical practice in Primary Health Care, in the context of child health consultations, this study aimed to systematize health professionals' perspectives on the vegetarian food diversification of the latent, in order to sustain measures to improve the quality of care provided.

The data were collected on May 1st and 3rd, 2023, in Santarém, Portugal. According to the methodological principles of a systematic literature review, the following question was defined: "What are the perspectives of Health Professionals regarding the introduction of new food trends in the latent?" After defining the question, the research process began, and the keywords were previously validated as descriptors MesH Browser 2018, in order to scientifically assess the terms: 1-Nursing; 2- Vegetarian diet; 3-Infant; 4- Complementary Feeding.

Starting from the question as well as the objectives of the study, and with the purpose of selecting the research articles, the criteria for inclusion/exclusion of studies were defined; Scientific articles were selected through the EBSCOhost computer platform, in the databases CINAHL Plus with Full Text, MEDLINE with Full Text, Nursing & Allied Health Collection: Comprehensive Edition and MedicLatina available on the website of the Order of Nurses on April 20, 2023 and on PubMed, according to the defined criteria. Articles published in full text between 2017-2023 were selected. The choice of this chronological filter aims to identify the most current scientific evidence on the subject in question. From the crossing of the various descriptors, different articles were obtained, proceeding to the reading of the respective titles and abstracts. In this methodological course (according to the protocol presented in Figure 1), the thirteen illegible articles were read in full according to the defined criteria.

DOI: https://doi.org/10.29352/mill0223.31947

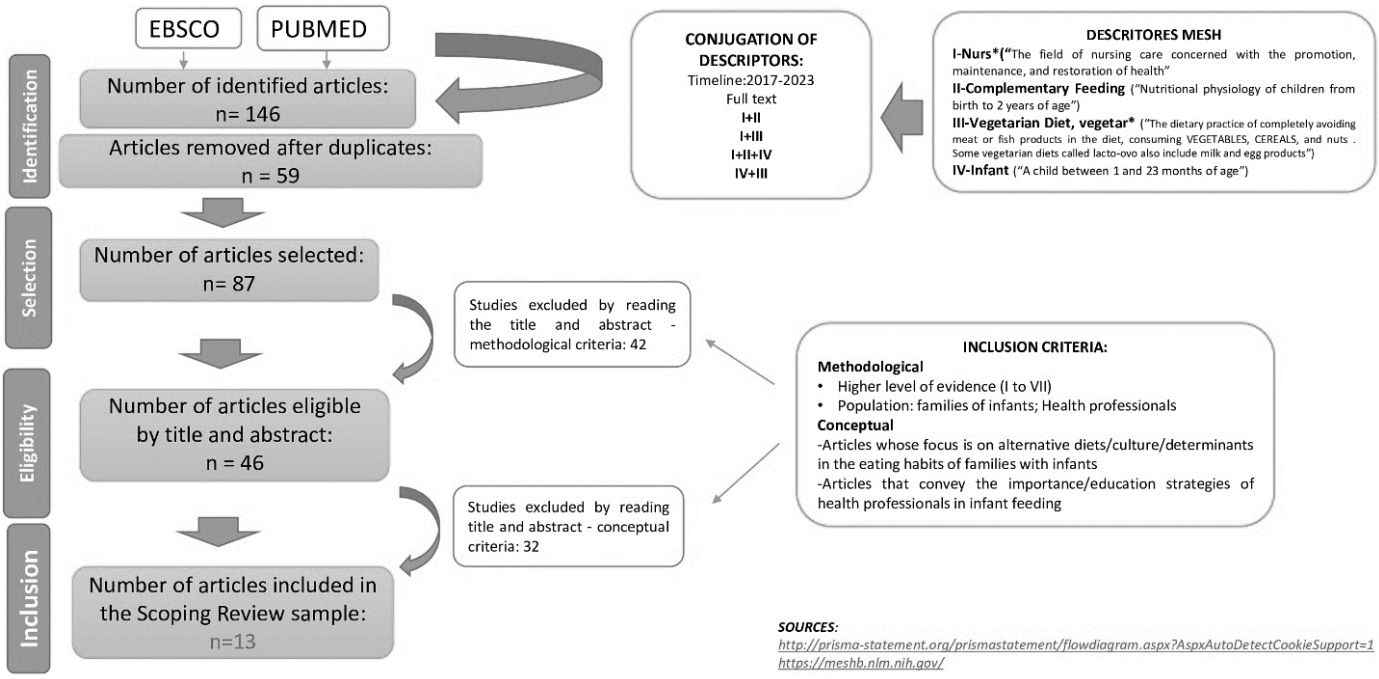


Figure 1 - Research Protocol. Adapted from: Prisma Flow Diagram, Joanna Briggs Institute (2015).

2. RESULTS

In order to facilitate the understanding and discussion of the results, the articles were divided into two groups: group A with articles 79, 87, 141, 82, and 98 were the articles that mention recommendations for alternative diets in the latent, and group B with articles 139, 81, 14, 22, 118, 116, 143 and 46 are included, that allude to the importance/intervention of health professionals in the fulfillment of these diets, according to the following table:

Table 1- Cataloguing of articles by concept. Source: Melnyk, B.M. & Fineout-Overholt, E. (2015)

GROUP A - RECOMMENDATIONS ALTERNATIVE DIETS IN LATENT	DESIGN OF THE STUDY	GROUP B - INTERVENTION OF HEALTH PROFESSIONALS	DESIGN OF THE STUDY
Article 79: "Do Vegetarian Diets Provide Adequate Nutrient Intake during Complementary Feeding? A Systematic Review" (Simeone et al, 2022)	Level V - Systematic Review	Article 14: "Promoção da diversificação alimentar saudável em menores de dois anos por enfermeiros: revisão integrativa – importância de estratégias com recursos as novas tecnologias" (da Silva Moura et al, 2021)	Level V - Systematic Review
Article 82: "Vegetarian Diets in Paediatrics. Nutrition Branch Recommendations"(Gutiérrez et al, 2021);	Level VII - Expert Opinion Article	Article 22: "Lactancia materna, alimentación complementaria y suplementación con multimicronutrientes: Perspectiva intercultural:"(Bustamante et al, 2019);	Level VI- Qualitative study with ethnographic design
Article 87: "Alimentación ComPlementaria: ConsideraCiones adiCionales e imPliCaCiones Futuras" (Elizondo e Borno, 2020);	Level VII - Expert Opinion Article	Article 46: "Knowledge of Health Professionals Regarding Vegetarian Diets from Pregnancy to Adolescence: An Observational Study" (Bettinelli et al., 2019).	Level VI-Cross-sectional quantitative study
Article 98: "Vegetarian diets in children: a systematic review" (Schürmann et al, 2017).and children. Committee on Nutrition and Breastfeeding of the Spanish Paediatric Association" (Ferreiro et al, 2020)	Level V - Systematic Review	Article 81: "Knowledge on the Complementary Feeding of Infants Older than Six Months among Mothers Following Vegetarian and Traditional Diets " (Kostecka & Kostecka-Jarecka,2021)	Level VI - Cross-sectional quantitative study

DOI: https://doi.org/10.29352/mill0223.31947

GROUP A - RECOMMENDATIONS ALTERNATIVE DIETS IN LATENT	DESIGN OF THE STUDY	GROUP B - INTERVENTION OF HEALTH PROFESSIONALS	DESIGN OF THE STUDY
Article 141: "Position paper on vegetarian diets in infants	Level VII- Opinion of Authorities or report of expert committees	Article 116 "Assessing the Potential for Integrating Routine Data Collection on Complementary Feeding to Child Health Visits: A Mixed-Methods Study." (Tully et al, 2019);	Level VI- Mixed Method Study
		Article 118: "Determinants for early introduction of complementary foods in Australian infants: findings from the HSHK birth cohort study" (Arora et al, 2020);	Level VI- Descriptive Cross-Sectional Study
		Article 139 Vegetarian and Vegan Weaning of the Infant: How Common and How Evidence-Based? A Population-Based Survey and Narrative Review (Baldassarre et al, 2020)	Level VI- Cross-sectional Quantitative Study
		Article 143: "The weaning practices: A new challenge for pediatricians?" (Nuzzi et al., 2022).	Level VII - Expert Opinion Article

A can be seen, a greater number of articles appeared in group B compared to group A, revealing the existence of more studies in the intervention area of health professionals in food diversification than in the specific guidelines for this type of diet. It is assumed the important for health professionals to promote a healthy and balanced diet in the vegetarian food diversification in the latent, evidencing its role in empowering the family and respecting it in its holistic form. On the other hand, in group A, the evidence is lower regarding studies on the recommendations for this type of latent diet. However, the reference entities' norms propose introducing foods at this stage of life.

3. DISCUSSION

According to the DGS (2013;2015), it is known that it is in the interventional within of family health and primary health care that lies much of the education in the area of food diversification in the latent and that there is a growing number of families that practice and intend that the infant practice alternative diets. Let us then analyze each group of results and compare them with the existing literature and with data obtained from clinical practice.

Schürmann (2017), states that vegetarian diets are healthy and the prevalence of children who comply with this regime is growing in industrialized countries, but few representative data are available. With regard to recommendations in alternative diets, Baroni et al. (2018), assume that an exclusively vegetarian diet, when well planned, can fulfill all the nutritional needs of a human being and can be adapted to all stages of the life cycle, including pregnancy, lactation, childhood, adolescence and in the elderly or even athletes, revealing the benefits of consuming plant products and their role in disease prevention. Like other babies, it is recommended to offer exclusive breastfeeding during the first six months of life. If the mother follows a vegetarian diet, it should be well-planned and supplemented correctly. If the mother takes supplements during this period, it is not necessary to administer them until six months of age. If not, the baby should take an adapted vegetable infant formula sold in pharmacies (Basulto et al., 2021).

The phased introduction of foods is about a prudent attitude, aiming to assess the tolerance of the different food groups and not about any limitation/prohibition imposed by the recommendations. Basulto et al. (2021) further add that the adoption of a vegetarian diet does not atrophy or alter metabolic pathways; there is no shortage of calcium as long as the vegetable drink contains it, and in case of food intolerances (including celiac) these, should be similarly guided by a pediatric allergist.

Effectively, and according to Elizondo and Borno (2019), from the moment food diversification begins, all foods can be introduced, regardless of the existence of positivity for a family history of atopy; Pimentel et al. (2018), present a proposal for the phased introduction of the different foods during the first three years of life, for a latent vegetarian, meeting the proposal of the DGS (2015). Looking for some systematization according to the age group, the following table is shown:

DOI: https://doi.org/10.29352/mill0223.31947

Table 2 - Food Diversification Proposal for a Vegetarian Infant. Sources: Baroni et al, 2019; Pimentel et al, 2018; Elizondo & Borno (2020); Blacksmith et al (2019); Basulto et al, 2021. Adapted from: DGS, 2015.

AGE	MILK	FOOD	
6 months	Prolonged breastfeeding up to 2 years / IF with soy protein or rice protein (type 1 IF is the most suitable up to 12 months)	Fresh Fruit Cream of Vegetables Cereals fortified in iron with or without gluten (quinoa, millet, buckwheat, oats) Bean curd	Recommended supplementation: VITAMIN B12 AND VITAMIN D In the same sense the authors, Simeone et al (2022) defend that a vegetarian diet provides all the necessary nutrients to the body of people in any age group, without the need for supplementation and that has been increasing in expression in Europe. Often associated with health, religious, ethical or environmental issues, not only among the adult population, but also among children and adolescents, vegetarianism is characterized.
7-8 months		Well-soaked legumes, such as unshelled lentils (red/orange), azuki beans, black-eyed peas, white, black or butter, peas, broad beans and chickpeas	
8-9 months		Egg Proteins from hemp, pea, wheat germ, brewer's yeast, you	
9 months		oleaginous fruits (almond, peanut, hazelnut, cashew, flaxseed, pine nut, pistachio) and seeds (pumpkin/hemp/chia/sunflower/poppy/sesame) coconut algae (nori, wakame, and wire)	
11-12 months		Tempeh Seitan Start Family Diet	
24-36 months		vegetable drinks (soy, almond, and oatmeal)	

The authors Simeone et al. (2022), also add that, there is no scientific evidence that a regimen of this type directly affects the psychomotor development of the child, if the diet is well planned, individualized, and monitored, taking into account the nutrients and vitamins present in the food as well as its bioavailability. In this sense, the sources of nutrients and the recommended daily intakes (RDAs) are summarized in Table 3.

Table 3 - Sources of Nutrients and Daily Allowances Recommended for Supplementation. Sources: Baroni et al, 2019; Pimentel et al, 2018; Elizondo & Borno (2020); Blacksmith et al (2019); Gutiérrez et al (2021); DGS, 2015; Basulto et al, 2021.

NUTRIENT	SOURCES	RDAs		
PREVENTIVE FOOD INTAKE				
Calcium	Dark green vegetables, legumes, seeds (e.g. sesame) and fatty fruits; Fortified foods such as tofu, soy drink, oats, almond or rice and cereals, dairy products (in lacto-vegetarians).	1000-1500 mg		
Iron	Vegetables, cereals, tofu, dark green vegetables, seeds, fatty fruits, tempeh, egg. Sources of vitamin C increase iron absorption (e.g. citrus, kiwi, melon, berries).	max: 40 mg/d		
Zinc	whole grains and derivatives, legumes, fatty fruits, seeds, eggs, dairy, mushrooms, wheat germ, miso, brewer's yeast	max: 4 mg/d		
Omega 3	algae, microalgae, seeds and oils of flaxseed, chia and hemp, soybean (and soybean oil), walnuts and purslane.	max:0,5g/day		
Iodine	Iodized salt, algae and dairy products	In the latent, the contribution to breastfeeding or to the IF and algae is guaranteed. Pregnant and exclusively breastfeeding vegetarian women should have a supplement of 150-200 mg/day in order to reach the recommended daily dose of 250 mg/day.		
Vit. A	Sweet potato, carrot, egg (egg-lato vegetarians), melon, mango, dark green vegetables.	400 µg/d		
RECOMMENDED SUPPLEMENTATION IN ADDITION TO PREVENTIVE DIETARY INTAKE				
		Age	**Daily Supplement (micrograms)**	**Supplement 2x/week (micrograms)**
Vit.B12	dairy, eggs, and fortified foods as vegetarian alternatives to meat, yeast extract, plant drinks, and cereals	0-5 months	0,4	-
		6-11months	5-20	200
		1-3 years	10-40	375
Vit.D	milk, beverages and vegetable creams, cereals	5 to 10 micrograms per day; regardless of diet, 1 drop/day - 400 IU / day.		

DOI: https://doi.org/10.29352/mill0223.31947

According to Simeone et al. (2022), there is evidence that after 6 months, supplementation in this type of diet is mandatory. The DGS (2015) states that the more restrictive the diet, the greater the need for supplementation with vitamin B12, and vitamin D, and also add iron (although not mentioned in the guidelines as mandatory).

It is, therefore, important to watch for signs of nutrient deficiency, reflected in the general condition and weight evolution of the child or other alarm signs/symptoms. According to Basulto et al. (2021), just as routine tests are not requested in children with omnivorous diets, analytical research in vegetarian latents is also unnecessary. However in general, if deviations or signs of any alarm occur, the specialized professional can search for parameters for confirmation.

In summary, the literature found refers to the choice of foods rich in the different nutrients for prevention and also recommends supplementation in the case of vitamins B12 and D (Baroni et al., 2019; Pimentel et al., 2018; Elizondo & Borno (2020); Blacksmith et al. (2019); Gutiérrez et al. (2021).

Acknowledging the evidence on the guidelines for alternative diets in the latent, it is now important to understand what it tells us about the perspectives and interventions of health professionals in this area. According to the DGS (2013), "primary care health professionals were responsible for advising on food diversification in 50% of children", being determining the knowledge of all the evidence and recommendations, in order to facilitate and guide the adaptation of diets to the particularities of the first years of life, assuming that to be healthy it is essential to have an adequate and balanced diet (ESPGHAN, 2017; APN, 2018).

Nurses and other multidisciplinary team professionals are essential for promoting healthy food diversification in children under two years of age. Nevertheless, the number of professionals who apply it correctly is low (Silva Moura et al., 2021). These authors consider that professionals who have completed specializations in the areas of family health, public health, or pediatrics are more apt in nutritional recommendations.

In the Kostecka & Kostecka-Jareka (2021) study, mothers who adhered to a traditional diet introduced animal foods earlier and had a higher than recommended number of daily meals for children aged 7 to 8 months compared to mothers who adhered to a vegetarian diet. However, not all vegetarian mothers are aware of the associated health risks. These authors add the role of the nutritionist in cooperation with the surveillance team for greater safety in the application of these diets.

Still, with regard to deviations, Arora et al. (2020), in a study conducted in Australia, about 80% of mothers introduced solid foods at 6 months and 14% introduced before 17 weeks. The author identified as determining factors for the early introduction of foods: younger mothers with lower socioeconomic levels and education, who work. At the same time, the child is small, and those who fully feed their babies with formula four weeks after delivery. They are more likely to make mistakes in food diversification.

Tully et al. (2019) confirm that health professionals routinely discuss the progressive introduction of solid foods and diet with the family. They are the ones who educate about proper nutrition, but their customs and beliefs always prevail, which can cause risks in growth and development. Thus, the accompaniment should be personalized, using simple language appropriate to the educational and cultural level (Bustamante et al., 2019). Silva Moura et al. (2021) found that professionals seek to use educational technologies to guide families about children's nutrition, considering the sociocultural and economic context, in addition to producing materials that assist in health education actions. Not imposing an eating plan, leads parents to reflect critically on the quality of the food offered to the child, making him the protagonist of the process of transformation of his reality.

Thus, for Bustamante et al. (2019), it is essential to negotiate strategies in order to reach an agreement. The guidelines have to be given repetitively, not only regarding the selection of foods, but also the frequency, quantity, texture, and combinations, according to the child's nutritional needs. According to Baldassarre et al. (2020), it is up to the professional to establish effective communication with parents explaining the consequences of nutritional deficits. It can be referred to a nutritionist with knowledge of this type of diet.

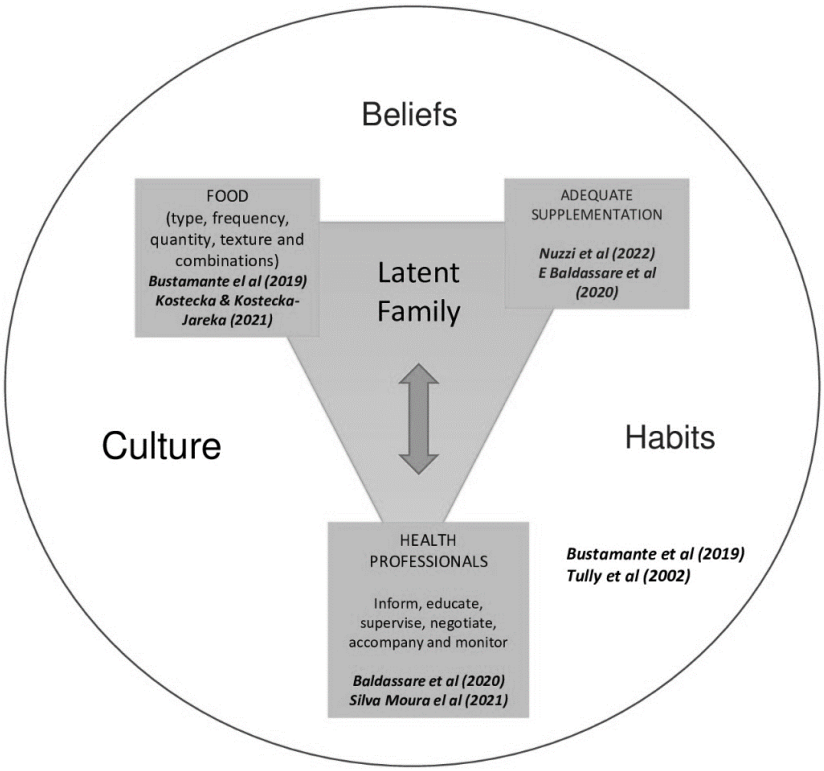
Baldassare et al. (2020) and Gutiérrez et al. (2021) confirm that recommendations to initiate vegetarian food diversification should be carried out by experienced health professionals with knowledge in the area. To do this, they should monitor growth and, when possible, refer to a nutritionist for proper planning and supplementation. Thus, the evidence corroborates that families interested in this type of food consult their health team. However, despite the increase in the expression of this type of diet in society, the opinions of professionals on it diverge and many do not feel confident about them or refuse these strategies. Betinelli et al. (2019), to understand health professionals' knowledge about this type of diet, interviewed 438 professionals, of which 65.8% (275) were nurses. About 34.1% correctly defined a vegetarian diet. In response to questions related to the risks and benefits of adopting it, about 45% and 39.4% answered correctly.

These findings are in line with those presented by Basulto et al. (2021), revealing the need for the training of primary healthcare professionals. One of the authors of this publication applied a questionnaire to pediatricians revealing their scarce training in this type of diet and the clear discomfort they have in working with this type of family. Over half of the respondents answered that a vegetarian diet is not balanced before 12 months, showing total ignorance of the current guidelines. Professionals in practice seem to present some resistance and little knowledge about this theme, so the existence of training programs is of the greatest relevance. In addition, taking into account some risks of nutritional deficiencies and the critical phases of development and growth and their relationship with nutrition, it is crucial that professionals are well prepared to receive these families. Nuzzi et al (2022) warn that this factor can lead parents to implement diets without clinical supervision or even to trust people other than health

DOI: https://doi.org/10.29352/mill0223.31947

professionals, exposing their children to serious nutritional risks. These findings are systematized in the scheme presented in figure 3, which seeks to systematize the process of education in food diversification in the latent vegetarian.

Figure 3 - Guidelines for vegetarian food diversification in the Latent. Sources: Bustamante et al (2019); Kostecka & Kostecka-Jareka,2021; Nuzzi et al, 2022; Baldassarre et al., 2020; da Silva Moura et al, 2021.



In conclusion, it is possible to ensure adequate nutrition for a child to comply with a vegetarian diet, and it is essential to take into account these aspects:

a) regular surveillance;
b) Monitoring of nutritional status (weight evolution, alarm signals, analytical tests if necessary, adequate supplementation as well as nutritional guidance by an experienced professional);
c) The more restrictive the diet, the greater the risk of nutritional deficiencies with repercussions on growth, maturation, and development;
d) The recommended vitamin and mineral supplementation must be strictly adhered to (DGS, 2019).

The results obtained from this Scoping review indicate the need to produce more scientific knowledge about the importance of the intervention of health professionals and dissemination of norms/guidelines about the benefits and risks associated with this type of food, to better advise and accompany these families and help overcome the natural barriers that may arise.

CONCLUSION

Food is only one of the pillars of a healthy lifestyle, and choosing a poorly planned alternative diet can be as pernicious as an unbalanced omnivorous diet (DGS, 2015). There is increasing interest in this area, which reflects, in part, the growing demand for information on exclusively vegetarian dietary patterns, but also the growing evidence of potential benefits for individual health and the sustainability of the planet, which they entail. In this sense, in the last 40 years, there has been an increase in the number of scientific research on the vegetarian diet and it is important to recognize that these types of diets have different levels of restriction, so it becomes crucial to evaluate their nutritional risk, and thus plan the follow-up of the child and adjust the pharmacological supplementation (DGS, 2019). In today's society, people are constantly exposed to numerous pieces of information, many of them false or misleading, so it is critical to monitor nutritional behavior and provide parental education to avoid consequences on the growth and development of the child with an alternative diet. With this review, it was possible to map very recent scientific evidence in the area of vegetarian food diversification in infants, promoting a more appropriate nursing

DOI: https://doi.org/10.29352/mill0223.31947

intervention for the training of the family in clinical practice and identify some parallelism between the studies found, clinical practice and the norms of the reference entities.

Based on articles from international databases, cross-referencing with European standards, conclusions can be applied to the European population and used in teams' educational health programs. It is important to develop greater scientific consistency and more studies with emphasis on the relevance of adequate planning of the infant's diet, under penalty of becoming inadequate, associated with risks of nutritional deficiency that may compromise their growth, development, and maturation. It is essential to have an adequate and balanced diet, with specialized monitoring of each professional involved in the process, as well as to ensure individualized supplementation. The health team empowers the family in this sense, providing all the information relevant to the process and respecting their choices, habits, and beliefs.

AUTHOR CONTRIBUTIONS

Conceptualization, J.M. and L.B.; data curation, J.M. and L.B.; formal analysis, J.M and L.B.; investigation, J.M. and L.B.; methodology, J.M. and L.B.; project administration, J.M. and L.B.; resources, J.M. and L.B.; software, J.M and L.B.; supervision, C.G.; validation, J.M., L.B. and C.G.; visualization, J.M. and L.B.; writing-original draft, J.M., L.B. and C.G.; writing-review and editing, J.M. and L.B.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

REFERENCES

Arora, A., Manohar, N., Hector, D., Bhole, S., Hayen, A., Eastwood, J., & Scott, J. A. (2020). Determinants for early introduction of complementary foods in Australian infants: findings from the HSHK birth cohort study. *Nutrition journal*, *19*(1), 16. https://doi.org/10.1186/s12937-020-0528-1

Associação Portuguesa de Nutrição [APN]. (2017). *Alimentar o futuro: uma reflexão sobre sustentabilidade alimentar*. E-book n.° 43. Associação Portuguesa de Nutrição. https://www.apn.org.pt/documentos/ebooks/E-BOOK_SUSTENTABILIDADE.pdf

Baldassarre, M. E., Panza, R., Farella, I., Posa D., Capozza, M., Mauro, A. D., & Laforgia, N. (2020). Vegetarian and Vegan Weaning of the Infant: How Common and How Evidence-Based? A Population-Based Survey and Narrative Review. *International Journal of Environmental Research and Public Health, 17*(13). https://doi.org/10.3390/ijerph17134835

Baroni, L., Goggi, S., & Battino, M. (2019). Planning Well-Balanced Vegetarian Diets in Infants, Children, and Adolescents: The VegPlate Junior. *Journal of the Academy of Nutrition and Dietetics*, *119*(7), 1067–1074. https://doi.org/10.1016/j.jand.2018.06.008

Basulto, J., Blanquer, M., Manera M. & Serrano, P. (2021). *Alimentación Vegetariana en la Infancia* (2ºedição). Penguin Random House Grupo Editrorial, S.A.U. Espanha.

Bettinelli, M. E., Bezze, E., Morasca, L., Plevani, L., Sorrentino, G., Morniroli, D., Gianni, M. L., & Mosca, F. (2019). Knowledge of Healtj Professionals Regarding Vegetarian Diets from Pregnancy to Adolescence: Na observational Study. *Nutrients, 11*(5). https://doi.org/10.3390/nu11051149

Bustamante Llatas, J. P., Gordillo Julón, M. A., Díaz Manchay, R. J., Mogollón Torres, F. de M., Vega Ramírez, A. S., & Tejada Muñoz, S. (2019). Lactancia materna, alimentación complementaria y suplementación com multimicronutrientes: Perspectiva intercultural. Cultura de Los Cuidados, 2019 (54), 231-243. https://doi.org/10.14198/cuid.2019.54.20

Da Silva Moura, J. W., Ribeiro de Vasconcelos, E. M., Ribeiro de Vasconcelos, C. M., da Silva, A. A., Silva Medeiros, K. da, Lemos, F. S., & Moreira Santos Silva, M. G. (2021). Promoção da Alimentação Complementar Saudável em menores de dois anos por enfermeiros: revisão integrativa. *Revista Enfermagem Digital Cuidado e Promoção da Saúde, 1-8*. https://doi.org/10.5935/2446-5682.2021001

Direção Geral da Saúde (2015). *Linhas de Orientação para uma Alimentação Vegetariana Saudável*. Programa da alimentação saudável. Direção Geral da Saúde. https://alimentacaosaudavel.dgs.pt/theme/manual-pnpas/#Linhas-de-Orienta%C3%A7%C3%A3o-para-uma-Alimenta%C3%A7%C3%A3o-Vegetariana-Saud%C3%A1vel.pdf

Direção Geral da Saúde (2019). *Alimentação Saudável dos 0 aos 6 anos. Linhas de Orientação para Profissionais de Saúde e Educadores*. Programa da alimentação saudável. Direção Geral da Saúde. https://alimentacaosaudavel.dgs.pt/alimentacao-saudavel-dos-0-aos-6-anos/

DOI: https://doi.org/10.29352/mill0223.31947

Direção-Geral de Saúde (2013). *Programa Nacional de Saúde Infantil e Juvenil*. Norma da direção-geral da saúde nº 010/2013. Direção-Geral de Saúde. https://www.dgs.pt/documentos-e-publicacoes/programa-tipo-de-atuacao-em-saude-infantil-e-juvenil-png.aspx

EPACI Portugal. (2012). Alimentação e crescimento nos primeiros anos de vida: a propósito do EPACI Portugal 2012. EPACI Portugal. https://alimentacaosaudavel.dgs.pt/activeapp2020/wp-content/uploads/2015/04/EPACI-2013.pdf

FAO, 2015.*FAO and the 17 sustainable development goals*. Food and Agriculture Organization of the United Nations. https://www.fao.org/3/i4997e/i4997e.pdf

Fewtrell, M., Bronsky, J., Campoy, C., Domellöf, M., Embleton, N., Fidler Mis, N., Hojsak, I., Hulst, J. M., Indrio, F., Lapillonne, A., & Molgaard, C. (2017). Complementary Feeding: A Position Paper by the European Society for Paediatric Gastroenterology, Hepatology, and Nutrition (ESPGHAN) Committee on Nutrition. *Journal of pediatric gastroenterology and nutrition*, *64*(1), 119–132. https://doi.org/10.1097/MPG.0000000000001454

Gutiérrez R, M., Marín B, V., Raimann T, X., & Le Roy O, C. (2021). Vegetarian Diets in Paediatrics. Nutrion Branch Recommendations. *Andes Pediatria: Revista Chilena de Pediatria, 92*(5), 781-789. https://doi.org/10.32641/andespediatr.v92i5.3787

Kostecka, M., & Kostecka-Jarecka, J. (2021). Knowledge on the Complementary Feeding of Infants Older Than Six Months among mothers Following Vegetarian na Tradicional Diets. *Nutrients, 13* (11). https://doi.org/10.3390/nu13113973

Mariño Elizondo, M., & Borno, S. (2020). Alimentación Complementaria: Consideraciones Adicionales e Implicaciones Futuras. Archivos *Venezolanos de Puericultura y Pediatría, 83*, 98-10. https://www.svpediatria.org/repositorio/publicaciones/2020/SUP_AVPP%2083-12.pdf

Melnyk, B.M. & Fineout-Overholt, E. (2015*). Evidence-based practice in nursing & healthcare: A guide to best practice* (edição 3). Wolters Kluwer.

Nielsen A. (2017). 120 000 vegetarianos – Número quadriplicou em 10 anos. Centro Vegetariano. http://www.centrovegetariano.org/Article-620-Numero-vegetarianos-quadruplica-10-anos-Portugal.html

Nuzzi, G., Gerini, C., Comberiati, P., & Peroni, D. G. (2022). The weaning practices: A new challenge for pediatricians? *Pediatric allergy and immunology: official publication of the European Society of Pediatric Allergy and Immunology*, *33 Suppl 27*(Suppl 27), 44–46. https://doi.org/10.1111/pai.1362

Pimentel D, Tomada I, Rêgo C., 2018. Alimentação vegetariana nos primeiros anos de vida: considerações e orientações. *Acta Portuguesa de Nutrição,* 14: 1017. http://dx.doi.org/10.21011/apn.2018.1403

Redecilla Ferreiro, S., Moráis López, A., Moreno Villares, J. M., en representación del Comité de Nutrición y Lactancia Materna de la AEP, & Autores (2020). Recomendaciones del Comité de Nutrición y Lactancia Materna de la Asociación Española de Pediatría sobre las dietas vegetarianas [Position paper on vegetarian diets in infants and children. Committee on Nutrition and Breastfeeding of the Spanish Paediatric Association]. *Anales de pediatria*, *92*(5), 306.e1–306.e6. https://doi.org/10.1016/j.anpedi.2019.10.013

Schurmann, S., Kersting, M., & Alexy, U. (2017). Vegetarian diets in children: a systematic review. *European Journal of Nutrition, 56*(5), 1797-1817.https://doi.org/10.1007/s00394-017-1416-0

Simeone, G., Bergamini, M., Verga, M. C., Cuomo, B., D´Antonio G., Lacono, I. D., Mauro, D. D., Mauro, F., D., Mauro, G. D., Leonardi, L., Miniello, V., L., Palma, F., Scotese, L., Tezza, G., Vania, A., & Caroli, M., (2022). Do Vegetarian Diets Provide Adequate Nutrient Intake during Complementary Feeding? A Systematic Review. *Nutrients, 14*(17), 3591.C:\JOANA\Artigo Viseu\ https://doi.org/10.3390/nu14173591

The Joanna Briggs Institute (2015). Joanna Briggs Institute Reviewers' Manual: 2015 edition/supplement Adelaide. The Joanna Briggs Institute. https://reben.com.br/revista/wp-content/uploads/2020/10/Scoping.pdf

Tully, L., Wright, C. M., McCormick, D., & Garcia, A. L. (2019). Assessing the Potential for Integrating Routine Data Collection on Complementary Feeding to Child Health Visits: A Mixed-Methods Study. *International journal of environmental research and public health*, *16*(10), 1722. https://doi.org/10.3390/ijerph16101722