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FAD DIETS: AN INTEGRATIVE REVIEW STUDY ON THE CARNIVORE DIET

DIETAS DA MODA: UM ESTUDO DE REVISÃO INTEGRATIVA SOBRE A DIETA CARNÍVORA

Eduarda Luque Pino[I], Rafaella Caroline de Lellis Moreira[II].
Liv Nunes Almeida Gomes[III], Aline Veroneze de Mello Cesar[IV*]

Abstract. Fad diets have become increasingly popular, driven by promises of rapid weight loss, improved mood, and even disease control. Among these, the carnivore diet has gained prominence in recent years, due to the number of followers and the premise of completely excluding plant-based foods, prioritizing the consumption of meat and meat products. In this regard, this study aims to conduct an integrative review of the literature on the possible effects of the carnivore diet on human health, assessing its risks, benefits, and impacts. The methodology consisted of searching and selecting scientific articles published in the last five years in the PubMed Central (PMC) database, using the descriptors: "carnivore," "carnivore diet," "ketogenic diet," "meat-based diet," and Boolean operators (OR/OU). After applying the inclusion criteria (year, type of study, and exclusion), three studies were included in the final analysis, two of a descriptive nature and one randomized clinical trial. The findings point to possible short-term benefits, such as improved glycemic markers, but also reveal significant deficiencies in nutrients such as fiber, vitamin C, magnesium, and folate, as well as elevations in LDL cholesterol levels. The main methodological limitations of the studies included small samples, short follow-up time, and lack of a control group. There was also a shortage of robust clinical trials evaluating the long-term effects of the carnivore diet. Therefore, the results are not sufficient to recommend this dietary practice, especially in vulnerable groups. It is concluded that, despite the media appeal and popularity of the diet, dietary strategies should respect the principle of individualization, based on solid scientific evidence and considering the social, cultural, and clinical context of the individual.

Keywords: Diets; Eating Habits; Human Nutrition; Eating Behavior.

Resumo. As dietas da moda têm se tornado cada vez mais populares, impulsionadas por promessas de emagrecimento rápido, melhora na disposição e até mesmo no controle de doenças. Entre as mais populares, a dieta carnívora tem ganhado destaque nos últimos anos, devido ao número de adeptos e pela premissa de excluir totalmente alimentos de origem vegetal, priorizando o consumo de carnes e derivados. Com base nos levantamentos realizados, este trabalho tem a finalidade de realizar uma revisão integrativa da literatura sobre os possíveis efeitos da dieta carnívora na saúde humana, avaliando seus riscos, benefícios e impactos. A metodologia consistiu em uma busca e seleção de artigos científicos publicados nos últimos cinco anos na base de dados PubMed Central (PMC), utilizando descritores: "carnivore", "carnivore diet", "ketogenic diet", "meat-based diet" e operadores boleanos (OR/OU). Após aplicação dos critérios de inclusão (ano, tipo de estudo e exclusão, resultaram em três estudos que foram incluídos na análise final, dois de natureza descritiva e um ensaio clínico randomizado. Os achados apontam possíveis benefícios a curto prazo, como melhora de marcadores glicêmicos, porém revelam também deficiências significativas de nutrientes como fibras, vitamina C, magnésio e folato, além de elevações nos níveis de LDL-colesterol. As principais limitações metodológicas dos estudos incluíram amostras pequenas, curto tempo de acompanhamento e falta de grupo controle. Constatou-se ainda a escassez de ensaios clínicos robustos que avaliem os efeitos da dieta carnívora a longo prazo. Dessa forma, os resultados não são suficientes para recomendar essa prática alimentar, sobretudo em grupos vulneráveis. Conclui-se que, apesar do apelo midiático e popularidade da dieta, estratégias alimentares devem respeitar o princípio da individualização, baseando-se em evidências científicas sólidas e considerando o contexto social, cultural e clínico do indivíduo.

Palavras-chave: Dietas; Hábitos Alimentares; Nutrição Humana; Comportamento Alimentar.

[I]Graduada em Nutrição, Universidade Paulista (UNIP), Instituto de Ciências da Saúde (ICS), Curso de Nutrição
06500-000, Santana de Parnaíba – SP, Brasil,
ORCID: 0009-0009-7608-5358,

[II]Mestra em Ciências da Saúde, Universidade Paulista (UNIP), Instituto de Ciências da Saúde (ICS), Curso de Nutrição,
06500-000, Santana de Parnaíba – SP, Brasil,
ORCID: https://orcid.org/0009-0000-3745-8590,

[III]Mestra em Patologia Ambiental e Experimental, Universidade Paulista (UNIP), Instituto de Ciências da Saúde (ICS), Curso de Nutrição,
06500-000, Santana de Parnaíba – SP, Brasil
ORCID: https://orcid.org/0009-0007-2852-9087

[IV*]Doutora em Ciências Universidade Paulista (UNIP), Instituto de Ciências da Saúde (ICS), Curso de Nutrição,
aline.mello@docente.unip.br (autora correspondente),
06500-000, Santana de Parnaíba – SP, Brasil
ORCID: https://orcid.org/0000-0002-1958-6916

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INTRODUCTION

Since the advancement and popularization of social media, so-called fad diets have gained prominence in contemporary society and are widely promoted by digital influencers[1], or television programs, and other digital media. Generally, these diets are characterized by severe dietary restrictions and promise quick results, and appeal mainly to individuals seeking rapid weight loss or health improvements, such as protective effects against obesity, cardiovascular disease, metabolic syndrome, and certain types of cancer[1].

However, many of these approaches lack scientific support, have limited evidence, and can have negative health impacts when used without professional guidance[1]. In this context, it is important to investigate the effects of these diets in greater depth, especially those that are gaining notoriety in digital media and among celebrities1. Among these, we can highlight, owing to its popularity, the carnivorous diet, a form of ketogenic diet that has grown and been promoted by influencers on social media, and research indicating that a diet consisting solely of meat can provide immediate health benefits[2]. However, there is a lack of evidence and in-depth research on the long-term impact of this dietary approach and its repercussions, both in the scientific community and professional practice of nutrition[2,3].

Despite these claims, the carnivorous diet raises significant concerns, considering that it consists solely of animal-based foods, excluding fiber and essential micronutrients found in fruits, vegetables, and grains, which can lead to nutritional deficiencies that would affect overall health and limit longevity[2-4]. Furthermore, severe restriction of food groups compromises the adequate intake of vitamins, such as ascorbic acid, other antioxidants, and bioactive compounds essential for various physiological functions[5].

Adequate, healthy, and diverse nutrition is related to increased diversity in the intestinal ecosystem, which is a fundamental factor for nutritional balance and essential metabolic and immunological functions[5-8]. Dietary fiber intake plays a key role in the synthesis of short-chain fatty acids, which contribute to the maintenance of the intestinal barrier and modulate inflammatory processes[6-8]. Inadequate fiber intake can compromise intestinal function, promote constipation, and decrease microbial diversity in the intestine, leading to chronic inflammation and an increased likelihood of metabolic disorders. This negative impact on the gut microbiota can have repercussions on mental health, as the gut-brain axis plays a crucial role in emotional balance and maintaining mental health[6-8].

Thus, completely removing plant-based foods from the diet can have adverse consequences not only on physical health but also on cognitive function and daily productivity[9-10]. Thus, the lack of a balanced diet not only harms the gut microbiota but also increases the risk of chronic noncommunicable diseases (NCDs) in the long term, including cardiovascular and metabolic diseases[11].

Another relevant aspect to be analyzed is the impact of a meat-based diet on metabolism and body composition[2,4,10]. Excessive intake of saturated fats can lead to increased LDL cholesterol levels, which are associated with an increased risk of cardiovascular events. The Brazilian Society of Cardiology (SBC) recommends caution regarding excessive intake of saturated fats present in foods of animal origin, as observed in the composition of the carnivorous diet[11].

In contrast, people who follow a carnivorous diet for prolonged periods have reported improvements in glycemic markers and reduced insulin resistance, which may be related to the restriction of refined carbohydrates in this dietary approach[10,12]. However, these findings need to be confirmed in controlled clinical trials to better elucidate their long-term effects, particularly in relation to changes in health status and metabolic markers[10,12,13]. Budoff et al. (2024)[14] conducted an observational study to evaluate the effects of a ketogenic diet with severe carbohydrate restriction in individuals with pronounced LDL cholesterol elevation, known as lean mass hyperresponders. Eighty adults who had been following this diet for a long time were compared with 80 matched controls. Although participants on the ketogenic diet had significantly higher LDL cholesterol levels, no relevant differences were observed in the presence of coronary plaques or arterial calcium scores as assessed using computed tomography angiography (CCTA).

Despite weight loss in these individuals, the authors highlighted the need for further studies to understand

the clinical implications of LDL elevation induced by a low-carbohydrate diet[14]. Thus, although a carnivorous diet is promoted as a solution for weight maintenance and metabolic improvement, its impact on bone health must be carefully analyzed, especially in at-risk populations, such as older adults and women[15,16].

Furthermore, the polarizing nature of a carnivorous diet requires critical analysis of its benefits and risks[17,18]. A systematic review and meta-analysis indicated that the consumption of unprocessed and processed red meat was associated with a higher risk of cardiovascular disease, and that the associations with stroke and type 2 diabetes mellitus (T2DM) were greater in Western contexts, with no difference by sex[18].

The absence of established nutritional guidelines for this practice also raises questions about its suitability for adoption by the general population, especially vulnerable groups such as older adults and individuals with chronic diseases[19]. There is a significant gap in the scientific literature regarding the assessment of possible side effects, especially in relation to nutritional balance, risk of eating disorders, and psychological repercussions of restrictive eating practices. Considering this scenario, it is important to investigate in greater depth the impact of restrictive diets on health.

This study seeks to contribute to the critical analysis of this topic by considering updated scientific evidence and promoting reflection on the risks and limitations of these practices, which are often disseminated without proper technical and scientific support. It is hypothesized that a carnivorous diet, as a recent dietary trend, may have significant negative effects on long-term health, contributing to the development of eating disorders and nutritional deficiencies, especially of fiber, vitamins, and minerals present in plant-based foods, as well as possible metabolic changes.

Considering this scenario, this study aimed to conduct an integrative review of the scientific literature on the possible effects of a carnivorous diet on human health, carry out a bibliographic survey of the carnivorous diet and its main characteristics, analyze the potential risks of adhering to a carnivorous diet for human health, and identify gaps in the scientific literature on the long-term effects of a carnivorous diet.

METHODOLOGY

This study was conducted through an integrative literature review, with data collection carried out in virtual environments, including the online scientific database PubMed Central (PMC). An initial review was conducted using scientific articles as references and specific descriptors. In the PubMed Central® database, English keywords were used, including the search term “all fields,” so that all fields in the articles were searched, using the following expressions: “Carnivore diet” OR “Carnivore” OR “ketogenic diet” in the first search (n = 612). Subsequently, the following descriptors were chosen: “Carnivore diet” OR “meat-based diet” (n = 8). Furthermore, filters were applied, such as selecting the option “Text availability” > “Full text” to include articles available in full, enabling their reading, excluding review articles from the search, selecting the option “5 years,” and marking only original articles (Table 1).

TABLE 1 – Databases and Boolean operators used in the bibliographic search.

Databases	Boolean operators AND Descriptors
PubMed – Broad search	*(carnivore diet)* OR *(carnivore)* OR *(ketogenic diet)*
PubMed – Refined search	(*"carnivore diet*" OR *"meat-based diet"*)

Source: Authors, 2025.

This study defined the research question using the PICO strategy (Table 2).

TABLE 2 - PICO search strategy outlined for study selection.

Problem	Fad diets and their impact on health.
Comparison or question of interest	Reflection on fad diets, focusing on the carnivorous diet and its benefits and/or risks to human health.
Evidence	Original scientific articles.
Results	Evaluation of the effects of a meat-based diet on health, considering benefits and risks.
Question	Is a meat-based diet good or bad for your health?

Source: Authors, 2025.

Only peer-reviewed articles published in English in the last five years (2020–2025) that directly addressed carnivore diets were considered. The exclusion criteria included non-peer-reviewed publications, review articles, books, course completion papers, theses and dissertations, studies published more than five years ago, and materials that did not specifically address the proposed topic. Filters were used for language (English), study type (case reports, clinical trials, clinical studies, and observational studies), and period (2020–2025). The main reasons for exclusion included lack of focus on the topic, duplicate searches, and studies with animal models.

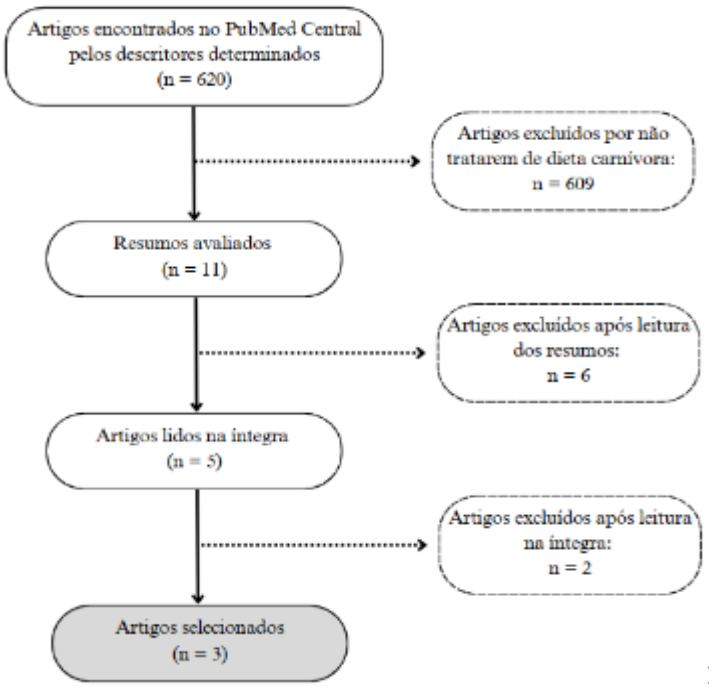
After searching the databases, the articles that were found underwent initial screening based on title reading. Studies not directly related to the review topic were excluded. A new selection stage was then conducted, in which the study abstracts were read carefully. Only studies that addressed aspects related to carnivorous diets and their impacts on human health were retained.

Regarding ethical aspects, this study is based on a literature review and, therefore, does not involve research with humans or animals, and does not require submission to a research ethics committee. All articles and documents used were duly cited and referenced, respecting the copyright and ethical rights of the publications.

RESULTS AND DISCUSSION

The initial selection of articles resulted in 620 articles, of which 612 were identified using the descriptors: (carnivore diet) OR (carnivore) OR (ketogenic diet), and 8 using the descriptors: (“carnivore diet” OR “meat-based diet”). Eleven articles were selected by title, and five were read in full, resulting in three articles being included in this study based on previously defined eligibility criteria (Figure 1).

FIGURE 1 – Flowchart of the process of identification and selection of studies included in the integrative review**.**



Source: Authors, 2025.

Among the selected studies, two were descriptive and exploratory in nature, and one was a randomized clinical trial (RCT), all conducted in English-speaking countries (Table 3). One study used a series of 10 patients diagnosed with inflammatory bowel disease (IBD) who followed a carnivorous-ketogenic diet, whereas another described a case study model aimed at evaluating the nutritional composition of an exclusively carnivorous diet. Both provide descriptive data that are fundamental to the initial hypotheses, but are limited by the absence of control groups and small sample sizes. The third study used a randomized crossover clinical trial design to compare the acute metabolic effects of a meat-rich diet with those of a carbohydrate-rich vegan diet. It should be noted that the methodological design was more robust for evaluating acute metabolic responses, but was still limited by its short duration and focus on single postprandial responses.

Table 3 – Comparative analysis of the studies included in the review.

Article (Author/Year)	Type of Study	Population	Key Findings	Evidence/limitations
McNairn et al., 2021	Randomized controlled crossover clinical trial	8 young adults (United States, California)	There was a distinction between the postprandial metabolomic patterns of the meat/fat-rich diet (named "HFPM") and the carbohydrate-rich vegan diet (named "HCV"), with higher levels of acylcarnitines, creatine, cis-trans hydroxyproline, and short-chain triglycerides in the HFPM.	Sample: small. Study period: short intervention, 2 weeks.

Norwitz & Soto-Mota, 2024	Real-life case study (experience reports)	10 adults with inflammatory bowel disease (United States)	The authors discuss the possible mechanisms by which these diets could exert therapeutic effects on inflammatory bowel diseases, including changes in lipid metabolism and the exclusion of nutrients potentially related to the triggering of symptoms.	Selection bias: search motivated by patients who reported improvement in inflammatory bowel disease. Low level of evidence: experience reports. Sample: small, no control group.
Goedeke et al., 2025	Theoretical case study	Diet model based on Australian and New Zealand recommendations (four meal plans)	The meat-based diet was deficient in thiamine, magnesium, calcium, vitamin C, iron, folate, iodine, and potassium. Relatively low in fiber. Excessive sodium.	Descriptive study based on diet model, no clinical evaluation, no follow-up.

Source: Authors, 2025.

These three studies were conducted in Western contexts, reflecting the predominance of interest in restrictive and ketogenic diets in countries with a high prevalence of obesity, diabetes, and metabolic diseases1,23. Food culture, health systems, and access to food differ substantially from those of other regions, which may affect the applicability and acceptability of this diet in different sociocultural contexts[1,23].

All the studies analyzed agree that the carnivorous diet is characterized by an extremely high intake of protein and lipids, with almost complete restriction of carbohydrates (<5% of total calories)[20-22]. The exclusion of plant sources implies an almost complete absence of dietary fiber and a significant reduction in the intake of plant-based vitamins and minerals[2,6].

A report by Norwitz and Soto-Mota (2024)[20] suggested that a carnivorous-ketogenic diet may improve clinical symptoms in patients with IBD. However, the study lacked objective data on nutritional, inflammatory, and metabolic parameters and did not assess potential adverse effects in the medium and long term, limiting the applicability and interpretation of these results. Furthermore, it is based on experience reports that are among the lowest levels of evidence.

Goedeke et al. (2025)[21] further analyzed the nutritional composition of the carnivorous diet, demonstrating that despite adequate protein, vitamin B12, heme iron, and zinc intake, there are notable deficiencies in essential nutrients, such as vitamin C, thiamine, magnesium, iodine, potassium, folate, calcium, fiber, and excess sodium. The absence of fibers is associated with adverse effects on the gut microbiota, as they are essential precursors for the production of short-chain fatty acids (SCFAs) by the gut microbiota, potentially increasing the risk of dysbiosis and intestinal inflammatory processes, which can be especially concerning in individuals with pre-existing gastrointestinal diseases[2,6].

In an RCT by McNairn et al. (2021)[22], postprandial metabolomic analysis revealed that a meal based on meat and animal fats promoted a significantly altered lipid profile compared to a vegan diet rich in carbohydrates, indicating acute changes in circulating metabolites with potential implications for energy metabolism and cardiovascular health. Although the design was most appropriate for investigating diets, its duration was limited, and the sample size was very small (n = 8).

The absence of fiber, antioxidant vitamins, and bioactive compounds in plant foods was highlighted by O'Hearn (2020)[2], who points to serious implications for gut health. The exclusion of entire food groups, such as fruits, vegetables, and grains, can compromise micronutrient intake and affect bone and cognitive metabolism. An example of this is a study that associated excessive consumption of processed meat with an increased risk of cognitive decline[18].

Therefore, there is insufficient evidence to validate long-term safety and efficacy[20-22]. It is essential that dietary strategies proposed for the population are based on robust scientific evidence and consider the social, cultural, economic, and environmental contexts of the individual[24].

Health promotion should always respect the principles of individualization, considering the specific nu-

tritional needs, food preferences, and clinical history of each person[25]. As stated by Philippi et al. (2019)[26], generalist and inflexible eating behaviors can be harmful and reinforce food exclusion practices without proper professional monitoring.

The included studies had limitations that need to be highlighted for critical analysis: small sample size, absence of control groups, short intervention time, and lack of comprehensive assessment of biochemical, metabolic, and microbiological parameters. Additionally, there is no consensus regarding the reliable indicators of dietary adherence. This review reaffirms the importance of considering the limitations and risks associated with adopting a carnivorous diet, especially in the absence of RCTs.

FINAL CONSIDERATIONS

Based on the analysis of the selected studies, it is possible to understand that the carnivorous diet remains a source of uncertainty in the field of science. Although there are reports of its benefits, these results are not sufficient to guarantee that this practice will be safe in the long term. This is because important risks have also been observed, such as the lack of fiber, vitamins, and compounds present in vegetables, which are essential for the proper functioning of the intestine, immune system, and overall health.

Furthermore, the complete exclusion of plant-based foods can cause nutritional problems and impair the body's balance, as recommended by societies such as the SBC. Therefore, it is essential to be careful with restrictive diets, especially those that promise quick results without considering the risks involved.

It can be concluded that further in-depth studies on the effects of this practice are still needed, particularly RCTs with longer durations and larger samples, so that its real impacts on health can be reliably determined. Until this occurs, it is best to maintain a varied and balanced diet, guided adequately by nutritionists based on reliable evidence and adapted to individual needs.

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