GENIUS JOURNAL
general nursing science journal
e-ISSN: 2723-7729
Vol. 7 No. 1 PP. 111-126 E-ISSN 2723-7729

Effectiveness of the Paleo Diet on Weight-Loss among Individuals with Obesity: A Systematic Literature Review

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DOI: https://doi.org/10.56359/gj.v7i1.873

Abstract

Introduction: Obesity has become a significant global public health issue. A variety of intervention strategies have been implemented, encompassing dietary modifications, physical activity, pharmacological treatments, and surgical procedures. Among these, the Paleolithic (Paleo) diet modeled after the presumed dietary patterns of humans during the Paleolithic era has attracted increasing scholarly attention as a potential nutritional approach for obesity management.
Objective: This study aims to systematically review and evaluate the effectiveness of the Paleolithic (Paleo) diet in reducing body weight among individuals with obesity. Through an analysis of existing research, this review seeks to identify the benefits, limitations, and long-term sustainability of the Paleo diet as a weight management strategy.
Method: This study aims to systematically review and evaluate the effectiveness of the Paleolithic (Paleo) diet in reducing body weight among individuals with obesity. Through an analysis of existing research, this review seeks to identify the benefits, limitations, and long-term sustainability of the Paleo diet as a weight management strategy.
Results: A total of 880 participants were included across the seven reviewed studies. The findings revealed that the Paleo diet was effective in promoting weight loss among individuals with obesity. Participants who adhered to the Paleo diet for eight weeks experienced an average reduction of 5.3 kilograms in body weight.
Conclusion: The Paleolithic diet (PD) is effective in reducing body weight, fat mass, and cardiometabolic risk factors compared with conventional diets, particularly in the short term. However, low adherence poses a major challenge, leading to diminished differences in benefits over the long term. Compared with the Mediterranean diet and intermittent fasting, adherence to PD is lower, and thus its long-term effectiveness requires further investigation.

Keywords: obesity, paleo diet, weight-loss

Introduction

Obesity has become one of the fastest-growing global health challenges in recent decades. This condition, marked by an excessive buildup of body fat, not only influences physical appearance but also affects a person's overall well-being and increases the risk of developing various non-communicable diseases. The World Health Organization (WHO) reports that the global prevalence of obesity among adults has more than tripled since 1975. In 2016, around 13% of adults aged 18 years and older were classified as obese (body mass index [BMI] ≥ 30 kg/m²), while another 39% were considered overweight (BMI 25.0–29.9 kg/m²) (Carreira et al., 2022). These data highlight that obesity is not merely a personal health issue but a widespread public health concern that calls for stronger prevention efforts, effective management, and sustained global action.

Obesity is recognized as a chronic disease and a major public health challenge due to its strong association with various non-communicable diseases and an increased risk of mortality. Individuals with obesity are more likely to develop health problems such as hypertension, dyslipidemia, type 2 diabetes, cardiovascular diseases, and certain forms of cancer (Muscogiuri et al., 2022). Beyond its physical impact, obesity can also affect mental health. Individuals with obesity often experience social stigma that leads to discrimination, reduced self-esteem, and a higher risk of mental health disorders such as depression, anxiety, and social anxiety disorder. This stigma frequently contributes to social isolation and further impairs psychosocial well-being (Cherif & Hadjedj, 2024). Economically, obesity places a substantial financial burden on both individuals and healthcare systems, through direct medical costs such as treatment and long-term care, as well as indirect costs related to reduced productivity (Yusefzadeh et al., 2019).

With the rising prevalence of obesity worldwide, a variety of management strategies have been developed, including dietary modifications, physical exercise, pharmacological therapy, and surgical interventions. Although numerous dietary and physical activity regimens have been shown to promote weight reduction among individuals with obesity, their long-term effectiveness remains uncertain (Brzuszkiewicz et al., 2022). Many individuals are able to achieve initial weight loss through specific diet plans or increased physical activity but often experience difficulty maintaining the reduced weight over time. This challenge underscores the need to explore more specific and sustainable dietary approaches. One approach that has gained increasing attention in recent years is the Paleolithic (Paleo) diet, which is modeled after the presumed eating habits of early humans during the Paleolithic era. The Paleo diet emphasizes the consumption of natural, unprocessed foods such as lean meats, fish, fruits, vegetables, nuts, and seeds, while excluding processed foods, added sugars, and dairy products. This dietary pattern is believed to contribute to weight reduction and metabolic improvement by encouraging a more natural and nutrient-dense eating pattern (Ghaedi et al., 2019).

In addition, the Paleolithic (Paleo) diet may provide additional health benefits, particularly in improving metabolic parameters. Studies have shown that adherence to the Paleo diet is associated with reductions in blood glucose levels, improved insulin sensitivity, and decreased visceral fat, all of which contribute to better metabolic health (Sohouli et al., 2022). This dietary pattern supports the optimization of the body's metabolism and overall physiological function. Furthermore, the Paleo diet has been reported to promote greater weight loss compared to conventional diets based on standard nutritional guidelines (De Menezes et al., 2019). This effect is partly attributed to its higher content of protein and

dietary fiber, which enhance satiety, reduce hunger, and lower total caloric intake factors that collectively support more effective and sustainable weight management.

Although the Paleolithic (Paleo) diet has shown several potential health benefits, particularly in promoting weight loss and improving metabolic function, it is equally important to evaluate its long-term effectiveness and safety in the management of obesity. This dietary pattern, which emphasizes the consumption of natural foods such as lean meats, fish, fruits, vegetables, and nuts, may also pose certain nutritional risks, including deficiencies in calcium, vitamin D, and other essential micronutrients that are commonly derived from dairy products and fortified foods. Such deficiencies could negatively affect bone health and other physiological functions. Therefore, this study conducts a systematic literature review to evaluate the existing scientific evidence on the effectiveness of the Paleo diet in reducing body weight among individuals with obesity. The review aims to identify patterns of findings that support or challenge the use of the Paleo diet as a weight-loss strategy and to provide a balanced understanding of its potential benefits and limitations in the context of obesity management. Ultimately, the findings are expected to offer clearer insights into the effectiveness of the Paleo diet and to inform evidence-based recommendations for future public health strategies.

Objective

The objective of this study is to evaluate the effectiveness of the Paleo diet in reducing body weight among individuals with obesity through a systematic review of the existing literature.

Method

Study design

This systematic literature review was conducted in accordance with the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The study protocol was prospectively registered in the International Prospective Register of Systematic Reviews (PROSPERO) under resgistered number CRD420250645278.

Search strategy

The literature search was conducted for studies published between January 1, 2014, and December 31, 2024, across multiple databases, including PubMed, ProQuest, Garuda, and JSTOR. The search period was limited to the past decade to ensure the inclusion of the most recent and relevant evidence on the topic of interest. Given that scientific research and developments continuously evolve over time, it is essential to consider up-to-date literature to obtain a comprehensive understanding of the field. Furthermore, restricting the search timeframe to the last ten years facilitated a manageable scope of studies for evaluation and synthesis.

The literature search employed the Medical Subject Headings (MeSH) terminology and relevant keywords using advanced search engines, as presented in Table 1. The search process was independently conducted by two co-authors (EN and MF), each performing searches across the aforementioned electronic databases.

Tabel 1. MeSH term on search strategy phase

Pubmed	https://tinyurl.com/2n9apznx	5	((paleo diet[MeSH Terms])) AND (obesity[MeSH Terms])
ProQuest	https://tinyurl.com/26rf6df7	325	(paleo diet) AND (weight loss) AND obesity
Garuda	https://tinyurl.com/49pc9pdy	3	paleo dietAND obesity
JSTOR	https://tinyurl.com/tsbd8anj	111	(((paleo diet) AND (weight loss)) AND (obesity)) AND la:(eng OR en)
	Total	444	

Inclusion criteria

Participant

The participants included in this study were individuals classified as having obesity, defined by a body mass index (BMI) of ≥ 30 kg/m² or according to established medical criteria for obesity. No restrictions were applied with respect to sex, religion, or race.

Intervention

The Paleo diet is an alternative dietary approach that mimics the eating patterns of early humans during the Paleolithic era to support overall health and physiological balance. This diet emphasizes the consumption of natural and whole foods such as lean meats, fish, fruits, vegetables, nuts, and seeds, while avoiding processed foods, added sugars, and dairy products.

Control

Eligible control groups were those receiving standard care, usual care, or a placebo.

Outcomes

Including studies that assessed pain intensity using various instruments, such as anthropometric measurements and dual-energy X-ray absorptiometry (DXA).

Study design

The included studies examined the effects of the Paleo diet using quasi-experimental, pre-experimental, and randomized controlled trials (RCTs). Reviews of the literature, systematic reviews, and opinion pieces were not included. The inclusion of studies was limited to those that were published in English.

Exclusion criteria

This review excluded studies that were not published in English. In addition, individuals aged over 65 years with mental disorders or chronic illnesses, as well as those younger than 12 years, were excluded from the analysis. Furthermore, articles such as individual studies, case reports, editorials, letters to the editor, correspondences, narrative and scoping reviews, descriptive studies, literature and systematic reviews, conference abstracts, book chapters, and opinion papers were also excluded.

Study selection and data extraction

All titles and abstracts were independently reviewed by two authors (NM and EN) based on predetermined study design criteria. Any discrepancies were resolved through discussion, and final decisions regarding inclusion were made by senior investigators (HS and RK). Subsequently, three authors (MF, AEP, and EN) independently extracted data from each study included in the review. Information on authorship, publication year, country, study design, sample size, interventions, instruments, outcomes, and key findings was obtained from the eligible.

Assessment of quality

The quality assessment of the included studies was independently conducted by two researchers (NM and AEP). Any disagreements in the evaluations were resolved through discussion, and senior investigators (HS and RK) were consulted when further clarification was needed. This rigorous procedure ensured that the quality assessment was performed meticulously and in accordance with established scientific standards.

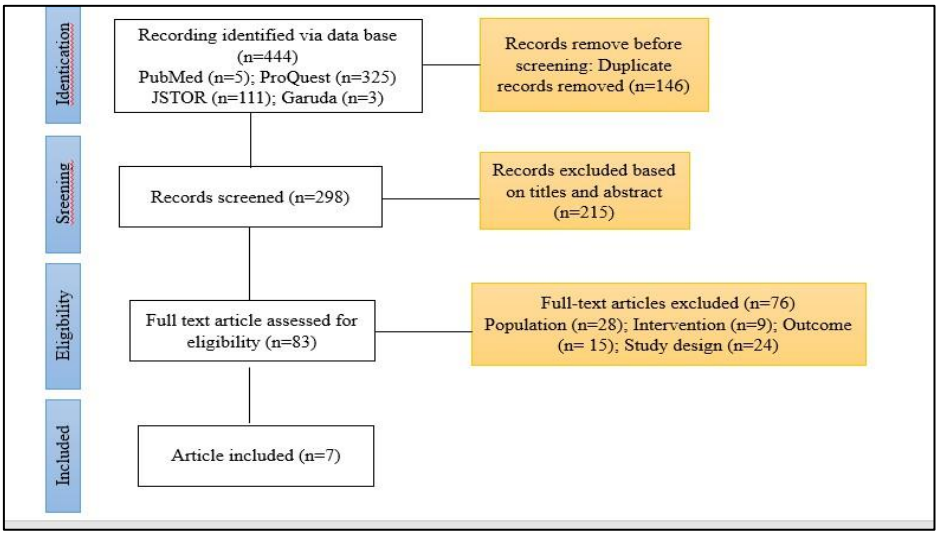
CASP evaluation

The quality of both primary and secondary outcomes was evaluated using the Critical Appraisal Skills Programme (CASP). The assessment encompassed several domains, including study design, risk of bias, inconsistency, indirectness, imprecision, and other pertinent methodological considerations.

Result

Study selection

Figure 1. Sreening Process flowchart by PRISMA



During the initial search phase, a total of 444 potentially relevant articles were identified. Following the removal of 147 duplicate records, 298 unique studies proceeded to the next screening stage. Two researchers (NM and MF) independently reviewed the titles and abstracts, narrowing the selection to 83 articles. Subsequently, full-text evaluations were conducted, and only 7 studies met the predefined inclusion and exclusion criteria. A detailed overview of the study selection process is illustrated in Figure 1.

Study characteristics

Tabel 2. Characteristic of Intervention

Author	Intervention, Fasilitaor, setting	Number of session	Duratiaon	Method or media	Topic
Mellberg et al. (2014) Sweden	Paleo diet and NNR. The facilitators in this study were the researchers (group sessions led by a dietitian), conducted in Sweden, with participants recruited through advertisements in local newspapers.	12 group sessions	2 years (24 months)	Each group participated in a total of 12 group sessions conducted by a trained dietitian (one dietitian assigned to each diet) over the 24-month study period. These group sessions consisted of information on the intervention diet and cooking, the effects of the diet on health, behavior change, and group discussions	Not mentioned
Otten et al. (2019) Sweden	The Palaeolithic diet and the control diet were based on the Nordic Nutrition Recommendations, with sessions guided by a dietitian.	12 group sessions	2 years (24 months)	Attending group classes led by a dietitian.	Not mentioned
Markofski et al. (2019) Texas	Self-managed Palaeolithic diet.	Weekly meetings.	8 weeks.	Participants received brochures with recipes and dietary guidelines.	Not mentioned
Josep et al. (2020) New Zealand	Intermittent Fasting (IF), Mediterranean, and Palaeolithic diets with exercise options (HIIT or standard).	Not stated	12 Months	Participants chose their own type of diet.	Not mentioned
Cruwys et al. (2020) Australia	Various diets (Vegan, Vegetarian, Paleo, Gluten-Free, Weight Loss), assessing adherence and psychosocial predictors.	Not stated	Not stated	Participants completed questionnaires to collect data from those following restrictive diets, but no scheduled sessions or defined intervention duration were provided.	Not mentioned
Sampaio et al. (2020) Brazil	Palaeolithic Diet (PD) vs Guideline-Based Diet (GBD), with group sessions led by a dietitian.	Not stated	60 days	Not mentioned	Not mentioned
Pieta et al. (2023) Poland	Palaeolithic diet for 12 weeks with two groups: one group following supervised exercise and the other receiving general exercise recommendation s.	Not stated	12 weeks	Not mentioned	Not mentioned

Across the reviewed studies, the implementation of the Paleolithic diet showed substantial variation in design, duration, and facilitation. Most interventions (Mellberg et al., 2014; Otten et al., 2019; Sampaio et al., 2020) were dietitian-led group programs, emphasizing the value of professional guidance in promoting adherence and understanding of dietary principles. Intervention durations ranged from two years to eight weeks, reflecting diverse research objectives and resource availability.

Methodologically, several studies employed structured educational sessions combining nutrition education, behavior change discussions, and cooking practice, while others used self-directed approaches with written materials (e.g., Markofski et al., 2019). In contrast, Cruwys et al. (2020) gathered observational data without direct dietary intervention. Overall, these findings suggest that the Paleolithic diet is adaptable to various settings, yet programs with professional supervision and structured education tend to produce more consistent engagement and outcomes.

Table 3. Data Extraction

Author, year, country	Design (Sample size)	Intervention (Case)	Instrument (outcomes)	Findings
Mellberg et at. (2014) Sweden	RCT (ITT=35, PP=27)[a] (ITT=35, PP=22)[b]	PDa and NNRb (obese postmenopausal women)	Dual-energy X-ray absorptiometry (DXA)	The Paleolithic diet (PD) showed greater benefits compared to the Nordic Nutrition Recommendations (NNR) diet in reducing fat mass, abdominal obesity, and triglyceride levels in obese postmenopausal women. However, these effects did not persist in anthropometric measurements after 24 months. In addition, adherence to protein intake in the PD group was low, and the long-term effects of these dietary changes still require further investigation.
Otten et al (2019) Sweden	RCT (ITT=35, PP=27)[a] (ITT=35, PP=22)[b]	PDa and NNRb (obese postmenopausal women)	Dual-energy X-ray absorptiometry (DXA)	The Paleolithic diet resulted in an average weight loss of 11% after 6 months, with a significant increase in GLP-1 levels. While the healthy control group lost 6%, only the Paleolithic group showed an increased iAUC for GIP. In conclusion, the Paleolithic diet enhanced postprandial GLP-1, supporting satiety and weight maintenance.
Markofski et al. (2019) Texas	Quasy eksperimental 18 people	PD (Overweight Adults)	Anthropometric Measurements and IPAQ	The study results showed significant reductions in body weight (-5.3 kg), BMI (-1.7 kg/m²), and metabolic biomarkers such as leptin (-56.2%), FGF-21, and BDNF. Although calorie and carbohydrate intake decreased, blood pressure did not show significant changes. This diet is effective in the short term but may be difficult to sustain in the long term
Josep et al. (2020) New Zealand	RCT (ITT=46)[a] (ITT=138)[b] (ITT=68)[c]	PD, IF, and MD	Dual-energy X-ray absorptiometry (DXA)	The Mediterranean diet and Intermittent Fasting resulted in greater weight loss compared to the Paleo diet over 12 months. Although adherence declined, both diets remained effective in improving weight and health, with the Mediterranean diet also providing benefits in glycemic control. Various dietary approaches can offer health benefits even with minimal support.
Cruwys et al. (2020) Australia	Mixed Method 293 people	Diet	DASS and The Food Choise Questioner	This study examined adherence to five types of restrictive diets. Vegan and vegetarian diets showed high adherence levels, whereas weight loss diets had lower adherence. Self-efficacy and social identification supported adherence,

				while motivation based on mood or weight loss tended to hinder it. Motivational factors play a crucial role in improving dietary adherence.
Sampaio et al. (2020) Brazil	RCT (ITT=82, PP=60)[a] (ITT=73, PP=59)[b]	PDa and GSDb (obesity anthropometric measurements)	Anthropometric Measurements and IPAQ	Following the Paleolithic diet for 60 days resulted in greater improvements in anthropometric markers, including body weight, BMI, waist circumference (WC), and waist-to-hip ratio (WHR), compared to a guideline-based diet.
Pieta et al. (2023) Poland	RCT (ITT=14)[a] (ITT=11)[b]	PDa and CDb	Dual-energy X-ray absorptiometry (DXA). And ELISA	The Paleo diet showed positive effects on weight loss and increased adiponectin levels in handball players. However, no significant changes were observed in carbohydrate and lipid metabolism markers. Further research is needed to understand the impact of this diet on hormones and metabolism in the context of physical activity.

The reviewed studies consistently showed that the Paleolithic diet (PD) produced notable short-term improvements in body weight, fat mass, and metabolic markers. In randomized trials, Mellberg et al. (2014) and Otten et al. (2019) reported greater reductions in adiposity and enhanced satiety-related hormones compared with the Nordic Nutrition Recommendations (NNR) diet, though these effects diminished over longer periods. Similarly, Markofski et al. (2019) and Sampaio et al. (2020) found significant decreases in weight, BMI, and waist circumference after short-term interventions.

However, Jospe et al. (2020) observed that the Mediterranean and Intermittent Fasting diets achieved more sustained weight loss after 12 months, suggesting greater long-term adherence. Pieta et al. (2023) reported similar metabolic benefits among athletes, while Cruwys et al. (2020) emphasized the role of motivation and self-efficacy in dietary adherence. Overall, the findings indicate that the Paleolithic diet is effective in the short term for improving metabolic and anthropometric outcomes but challenging to maintain over extended periods without professional or behavioral support.

Tabel 4. CASP Checklist for The Quality of Studies

Author/year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Mellberg et al. (2014)	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
Otten et al. (2019)	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
Markofski et al. (2019)	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
Josep et al. (2020)	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
Cruwys et al. (2020)	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
Sampaio et al. (2020)	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
Pieta et al. (2023)	Y	Y	Y	Y	N	Y	Y	Y	Y	Y

Based on the Critical Appraisal Skills Programme (CASP) Checklist, all seven reviewed studies demonstrated overall good methodological quality. Each study (Mellberg et al., 2014; Otten et al., 2019; Markofski et al., 2019; Jospe et al., 2020; Cruwys et al., 2020; Sampaio et al., 2020; Pieta et al., 2023) met most of the quality criteria, particularly in terms of research clarity (Q1), study design (Q2), data collection methods (Q3), and result analysis (Q4, Q6–Q10). However, all studies received a “No” rating on Q5, which commonly relates to bias considerations or participant involvement, indicating limited transparency or bias control in reporting. Overall, the findings suggest that these studies possess good internal validity and reliability, though improvements are needed in addressing ethical transparency and bias mitigation within future research.

Discussion

This systematic review analyzes the effectiveness of the Paleo diet in reducing body weight among individuals with obesity. The Paleo diet focuses on the consumption of foods resembling those eaten by prehistoric humans, such as meat, fish, vegetables, fruits, and nuts. This approach is based on the principle that aligning modern dietary patterns with the eating habits of ancestors during the Paleolithic era may be more consistent with the evolutionary needs of the human body, thereby potentially yielding significant weight-loss outcomes. The findings indicate that the Paleo diet can produce substantial weight reduction, with an average weight loss of 5–10% over varying intervention periods, typically ranging from 8 to 24 weeks. The effectiveness of this diet in promoting weight loss is thought to be associated with its macronutrient

composition high in protein and healthy fats, and low in refined carbohydrates which contributes to increased satiety, reduced spontaneous caloric intake, and enhanced basal metabolism. Consistent with previous research by Manheimer et al, (2015) the Paleo diet has been shown to boost metabolism and naturally reduce caloric intake, thereby contributing to more significant weight loss compared to conventional low-fat diets (Manheimer et al., 2015).

According to the energy balance theory, weight loss occurs when caloric intake is lower than energy expenditure. High-protein dietary patterns, such as the Paleolithic (Paleo) diet, have been shown to increase the thermic effect of food (TEF) the amount of energy required for digestion and metabolism thereby promoting a greater energy deficit. Within the framework of appetite control theory, as explained by Leidy et al. (2015) through the Glucostatic and Lipostatic models, higher protein intake stimulates the secretion of satiety hormones such as peptide YY (PYY) and glucagon-like peptide-1 (GLP-1), which help reduce food intake and improve dietary adherence (Leidy et al., 2015). Several intervention studies support this mechanism, showing that individuals who followed the Paleo diet achieved more substantial weight loss than those adhering to conventional diets based on standard nutritional guidelines, particularly within the first six months (Mellberg et al., 2014; Otten et al., 2019). Beyond weight reduction, the Paleo diet has also been reported to improve body composition by decreasing body fat and increasing lean muscle mass. Frączek et al. (2021) found that this diet positively influences body composition, lipid profiles, and carbohydrate metabolism (Frączek et al., 2021). Moreover, the Paleo diet has been linked to improvements in metabolic indicators, including blood glucose levels, lipid metabolism, and hormone regulation involving leptin and adiponectin. Nederhof (2017) emphasized that the effectiveness of this diet is shaped not only by nutritional composition but also by psychological and social factors such as adherence, motivation, and social support (Nederhof, 2017). Similarly, Sampaio et al. (2020) observed that individual variability including genetics, age, and existing health conditions may influence dietary outcomes. In their 60-day study, participants following the Paleo diet showed reductions in body weight, waist circumference, and waist-to-hip ratio, although challenges with adherence indicated difficulties in maintaining the diet long-term (Sampaio et al., 2020). Christopher (2016) further noted that while the Paleo diet can support weight loss and metabolic health, limitations in food variety and the complexity of meal preparation remain key barriers to its sustainability (Christopher, 2016).

Despite evidence supporting the potential benefits of the Paleolithic (Paleo) diet, its long-term effectiveness and theoretical foundations remain subjects of debate. Buckley and Buikstra (2019) argued that the diet's core concept replicating the presumed eating patterns of prehistoric humans is anthropologically questionable, as ancestral diets varied widely according to geography and food availability (Buckley & Buikstra, 2019). Moreover, comparative studies have shown that more balanced dietary models, such as the Mediterranean and DASH diets, can achieve comparable or even superior outcomes in weight control and metabolic health without imposing the strict restrictions typical of the Paleo approach (Tay et al., 2015). Karlsen et al. (2021) further reported that adherence to the Paleo diet may result in deficiencies of key micronutrients, particularly calcium and fiber, due to the exclusion of dairy products and grains, and may, in some cases, elevate LDL cholesterol levels, potentially increasing cardiovascular risk (Karlsen et al., 2021). Consequently, while the Paleo diet may contribute to short-term weight reduction and metabolic improvement, further long-term research is needed to evaluate its safety, sustainability, and comparative efficacy against more nutritionally balanced dietary patterns.

Various instruments have been employed to assess the impact of the Paleolithic diet, encompassing anthropometric measurements, dietary records, and metabolic biomarker analyses. Several studies have confirmed the use of dual-energy X-ray absorptiometry (DXA) as a reliable tool for measuring body composition due to its ability to provide accurate estimates of fat mass and lean mass (Messina et al., 2020; Moreira et al., 2018). In addition, bioelectrical impedance analysis (BIA) has been applied alongside DXA to evaluate changes in body composition, offering practicality for longitudinal studies (Jospe et al., 2020). Dietary adherence has typically been assessed using three-day food records, which, despite potential reporting bias, remain valid for estimating energy and macronutrient intake (WA et al., 2020). Furthermore, several studies have incorporated metabolic biomarkers such as leptin, fibroblast growth factor 21 (FGF-21), and brain-derived neurotrophic factor (BDNF) to evaluate physiological adaptations associated with the Paleolithic diet (Herrero et al., 2019; Markofski et al., 2021).

Comparative evidence demonstrates that anthropometric indicators like body mass index (BMI), waist circumference, and waist-to-hip ratio are reliable markers of metabolic and cardiovascular risk (Destra et al., 2023; Neeland et al., 2018). Meanwhile, advanced analyses of glucose, insulin, and lipid profiles, as shown in Pieta et al. (2023), have provided further insights into the metabolic responses to Paleolithic dietary patterns (Pięta et al., 2023). Collectively, the combination of DXA, BIA, dietary records, and blood-based biomarkers offer a comprehensive and reliable framework for evaluating the health impacts of the Paleo diet across different populations (Buckinx et al., 2018).

However, despite methodological strengths such as the use of randomized controlled trials (Mellberg et al., 2014; Sampaio et al., 2020) and the inclusion of metabolic hormone analysis (Otten et al., 2019) limitations persist. These include small sample sizes, short intervention periods, absence of control groups in some studies, and minimal assessment of psychosocial and performance-related factors (Cruwys et al., 2020). Future research should therefore integrate larger, more diverse populations and adopt multidimensional approaches that consider both physiological and behavioral determinants of dietary adherence and long-term outcomes.

The clinical implications of these findings suggest that the Paleolithic diet may serve as an effective adjunct in obesity management, primarily through its role in promoting weight reduction and improving metabolic health. Nonetheless, its implementation should be individualized, as nutritional requirements and metabolic responses vary among individuals. Successful dietary interventions depend not only on nutrient composition but also on psychosocial determinants such as motivation, adherence, and social support. Therefore, a multidisciplinary and evidence-based approach integrating nutrition education, behavioral modification, and clinical evaluation is essential to ensure the safety, sustainability, and long-term efficacy of the Paleolithic diet in obesity management.

Conclusion

The Paleolithic diet (PD) has shown short-term benefits in reducing body weight, fat mass, and cardiometabolic risk factors; however, its long-term effectiveness remains uncertain due to low adherence and potential nutrient deficiencies. For nursing practice, these findings highlight the importance of delivering evidence-based dietary education, monitoring nutritional adequacy, and supporting patients in maintaining sustainable healthy eating patterns. A multidisciplinary approach involving nurses, dietitians, and other

healthcare professionals is crucial to ensure that the PD is implemented safely, effectively, and tailored to individual health conditions.

Acknowledgement

Not applicable

Author Contribution

Each author contributed equally in all the parts of the research. All authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

Conflict of Interest

The researchers stated that there is no conflict of interest related to the implementation and publication of the results of this research. The entire research process, from planning, data collection, analysis, to report preparation, was carried out independently without any influence or pressure from any third party. A commitment to research ethics is upheld throughout the research process, ensuring transparency, accuracy and honesty in reporting results. Respondents' participation was voluntary with informed consent, and their confidentiality and privacy were maintained in accordance with applicable research ethics standards. With this statement, researchers hope that the research results can be trusted and used as a valid reference for the development of science and health practices related to ethnomedicine and reproductive health.

Ethical Clearance

Not applicable.

Funding

This research was funded by the Research and Community Service Institute of STIKes Muhammadiyah Ciamis under contract number.

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