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Mediterranean Diet as a Part of Traditional Mediterranean Lifestyle

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ABSTRACT

Aims The primary objective of this review is to briefly define the Mediterranean diet (MD), its core principles, key ingredients, and the well-documented health benefits, particularly its role in promoting longevity and preventing chronic diseases. Additionally, this review aims to explore the origins of these principles and benefits, deeply rooted in a specific and traditional way of living inherent to the Mediterranean region.

Materials & Methods A comprehensive literature search was conducted using PubMed, Scopus, and Embase to explore Mediterranean Lifestyle (ML)-related activities from ancient to contemporary periods, including literature published before 1990. The search utilized specific keywords and applied filters for publication date, article type, text availability, and species. It focused on books and review papers in English to ensure foundational insights and maintain consistency, facilitating a targeted examination of ML activities over time.

Findings The MD is highly regarded as one of the healthiest diets globally, praised for its preventive health benefits due to its combination of antioxidant and anti-inflammatory properties. Recent insights have highlighted that the MD is not just about specific ingredients or cooking techniques but is rooted in a unique lifestyle native to the Mediterranean region. Previous studies have indicated that the core elements of the MD, such as social connections and physical activity, originate from the ancient way of life in this area.

Conclusion The modern understanding of the MD and its health benefits is deeply rooted in the historical way of life in the Mediterranean region. The various elements of the MD, such as social interactions, physical activity, rest, and cultural practices, reflect ancient Mediterranean lifestyles shaped by geographical, climatic, and cultural factors. Therefore, it is recommended that future researchers consider the evaluation of the lifestyle factors that embody its core principles in addition to briefly measuring the MD through questionnaires.

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طب داخلی روز
فصلنامه دانشگاه علوم پزشکی و خدمات درمانی گناباد

مقاله پژوهشی

رژیم غذایی مدیترانه ای به عنوان بخشی از سبک زندگی سنتی مدیترانه ای

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چکیده

هدف هدف اصلی این بررسی، تعریف مختصر رژیم غذایی مدیترانه‌ای (MD)، مواد اصلی و مزایای سلامتی مستندشده، به ویژه نقش آن در ارتقای طول عمر و پیشگیری از بیماری‌های مزمن است. افزون بر آن، این مطالعه با هدف بررسی منشأ این اصول و مزایایی که عمیقا در یک روش خاص و سنتی زندگی ذاتی در منطقه مدیترانه ریشه دارد، مرتبط است.

مواد و روش‌ها: برای بررسی فعالیت‌های مرتبط با سبک زندگی مدیترانه ای (ML) از زمان باستان تا معاصر، یک جستجوی جامع ادبیات با استفاده از پابمد، اسکوپوس و امبیس انجام شد که شامل اسناد منتشر شده قبل از سال ۱۹۹۰ می‌باشد. در این جستجو، از کلیدواژه‌های مشخصی استفاده شد و فیلترهایی در مورد زمان انتشار، نوع مقاله، دسترسی به متن و گونه‌ها انجام شد. همچنین، این جستجو روی کتاب‌ها و مقالات مروری به زبان انگلیسی متمرکز بود تا از بینش‌های اساسی اطمینان حاصل شده و سازگاری حفظ گردد که این امر موجب تسهیل بررسی هدف‌مند فعالیت‌های ML در طول زمان می‌گردد.

یافته‌ها: MD به عنوان یکی از سالم‌ترین رژیم‌های غذایی در سطح جهان شناخته می‌شود که به دلیل مزایای سلامتی پیشگیرانه آن به دلیل ترکیبی از خواص آنتی اکسیدانی و ضد التهابی ستایش می‌شود. بینش‌های اخیر نشان داده است که رژیم غذایی مدیترانه‌ای فقط درباره مواد خاص یا تکنیک‌های آشپزی نیست، بلکه ریشه در سبک زندگی منحصر به فرد بومی منطقه مدیترانه دارد. مطالعات نشان داده است که عناصر اصلی رژیم غذایی مدیترانه‌ای، مانند ارتباطات اجتماعی و فعالیت بدنی، از شیوه زندگی باستانی در این منطقه نشئت می‌گیرد.

نتیجه‌گیری: درک مدرن از MD و مزایای سلامتی آن عمیقا در شیوه زندگی تاریخی در منطقه مدیترانه ریشه دارد. عناصر مختلف MD، مانند تعاملات اجتماعی، فعالیت بدنی، استراحت، و شیوه‌های فرهنگی، منعکس‌کننده سبک زندگی مدیترانه باستانی است که با عوامل جغرافیایی، اقلیمی و فرهنگی شکل گرفته است؛ بنابراین، توصیه می‌شود که محققان آینده، علاوه بر اندازه‌گیری مختصر MD از طریق پرسش‌نامه، ارزیابی عوامل سبک زندگی را که اصول اصلی آن را در بر می‌گیرند نیز در نظر داشته باشند.

کلیدواژه‌ها:
دارو،
رژیم غذایی،
سبک زندگی،
سلامت،
خواب،
فعالیت بدنی

نویسنده مسئول:
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Introduction

The Mediterranean diet (MD) is widely regarded as one of the healthiest eating patterns globally. Originally, it served as the cornerstone of dietary habits across countries in the region and was predominantly adopted by individuals, particularly among the less affluent population, who adhered to specific dietary, sleep, and physical activity patterns [1]. In terms of ingredients, the MD emphasizes a high ratio of monounsaturated fats, such as olive oil and tree nuts, while maintaining a low intake of saturated fats [2]. Additionally, it advocates for the consumption of organic and plant-based foods, including fruits, vegetables, legumes, seeds, cereals, and nuts [3]. Furthermore, the MD promotes moderate consumption of fish, poultry, and dairy products, such as eggs, cheese, and yogurt, alongside a moderate intake of alcohol, primarily wine, along with meals. Conversely, it advocates for a low intake of red meat [4, 5].

Regarding lifestyle, the MD encompasses three main daily meals—breakfast, lunch, and dinner—often accompanied by social interactions and physical activities. It is characterized by moderation in portion sizes, the consumption of traditional and locally sourced food products, and adherence to seasonal variations in food availability and consumption patterns [6]. In the subsequent sections, we plan to investigate the health benefits of the MD and its ingredients separately. By dissecting the advantages of MD and its components, the aim is to uncover the underlying reasons for these benefits. Additionally, the origins of each specific pillar of the MD are explored.

Methods

A comprehensive literature search was conducted using PubMed, Scopus, and Embase to explore Mediterranean Lifestyle (ML)-related activities and their components across ancient and contemporary periods, with searches encompassing literature published before 1990. The search strategy utilized keywords related to ML activities and their relevant components. In this study, specific filters were applied, including restrictions on publication date, article type, text availability, and species studied. During this period, the search was further refined to include only books and review papers, ensuring a focus on foundational and historical insights. Additionally, publications were limited to English-language articles to maintain consistency and accessibility. This systematic approach facilitated a targeted examination of ML-related activities over time.

Benefits of MD-Specific Ingredients

The updated MD pyramid delineates key elements, including recommended consumption levels and food preparation techniques, compared to other dietary patterns, such as the Western diet. Offering a diverse array of foods rich in micronutrients, the MD effectively mitigates nutritional deficiencies among consumers, enhancing its appeal as a sustainable and health-promoting dietary regime, as well as for disease prevention [1, 7]. With the provision of further insight into its components and their impact on well-being and health, olive oil stands out as a widely recognized source of healthy fat, extensively consumed in the Mediterranean region. A meta-analysis of 32 observational studies revealed that olive oil consumption is associated with a decreased risk of metabolic and inflammatory biomarkers, thereby reducing the incidences of coronary heart disease (CHD), stroke, and diabetes [8,9]. Moreover, the consumption of various fruits and vegetables has been linked to reduced adiposity and lower risks of certain cancers, type 2 diabetes, CHD, stroke, and overall all-cause mortality. This can be attributed to their rich content of dietary fiber, potassium, copper, magnesium, folate, polyphenols (mostly flavones), and terpenes, as well as vitamins A, B6, C, E, and K [10-12]. Additionally, nuts, legumes, and grains serve as excellent sources of fiber, folate, vitamin B6, magnesium, potassium, copper, monounsaturated fatty acids (MUFAs), and polyunsaturated fatty acids (PUFAs), particularly linoleic and linolenic acids, phenols, flavonoids, bioflavonoids, and phytosterols. Their inclusion in the Mediterranean regimen plays a pivotal role in the prevention of CHD, diabetes, and weight management, as well as in controlling total and low-density lipoprotein (LDL-C) cholesterol levels [9,13].

MD and Health Benefits

MD and Obesity

In addition to the benefits of individual ingredients in the MD, the literature indicated that adherence to the MD is associated with improved health-related risk factors, longevity, and disease prevention. It has been underscored that the Mediterranean dietary pattern is a critical factor in combating obesity-related diseases and is the most effective preventive measure against overweight and obesity [14]. Moreover, a study by Estruch et al. (2019) reported that individuals adhering to the MD experienced less central adiposity gains with minimal weight changes compared to those on a low-fat diet over a 5-year follow-up period [15]. Additionally, an 8-week calorie-restricted and protein-enriched MD has shown significant improvements in

weight, visceral fat, and fat mass while preserving fat-free mass in obese men awaiting laparoscopic sleeve gastrectomy [16].

MD and cardiovascular diseases

Regarding the control of cardiovascular diseases, some studies indicated that the MD, compared to a low-fat diet, is more effective in the secondary prevention of cardiovascular events [17]. Furthermore, following the MD has been associated with decreased cardiovascular disease mortality rates due to its positive effects on inflammation and endothelial dysfunction [18, 19]. A recent review emphasized the beneficial impact of the MD on endothelial and cardiovascular functions, attributed to the consumption of long-chain PUFAs, fiber, antioxidant vitamins (e.g., vitamin C), carotenoids, and polyphenols [20].

MD and Type 2 Diabetes

In the context of type 2 diabetes, the most prevalent metabolic disease globally, a 20-year follow-up study indicated that higher adherence to the MD is associated with a 30% relative risk reduction in the incidence of type 2 diabetes in a cohort of 25,317 females [21]. Additionally, the positive role of the MD in reducing the risk of diabetes, attributed to the consumption of high amounts of olive oil, nuts, and magnesium, has been well established [22-24].

MD and Cancers

Recent studies on cancer have revealed that the MD is associated with a reduced risk of certain cancers, such as prostate and breast cancer. Countries with higher adherence to the MD, particularly those in southern Europe, exhibit lower prevalence and mortality rates of prostate cancer due to the consumption of fresh and healthy ingredients [9, 10]. Furthermore, Bruno et al. (2020) found significant improvements in insulin-like growth factor I (IGF-I) levels, weight, waist and hip circumference, triglycerides, and total cholesterol among participants undergoing an MD-based intervention with protein restriction, highlighting its efficacy in breast cancer management [24].

Is the MD a diet or a way of living?!

Given the numerous advantages of the MD, it stands as the gold standard in preventive medicine, likely owing to its harmonious combination of numerous elements with antioxidant and anti-inflammatory properties, surpassing the impact of any individual nutrient or food item. However, this dietary pattern holds greater importance than the mere sum of its components [25]. Recent insights have emphasized that the MD is not merely a diet centered around specific ingredients or cooking methods; instead, it emerges from a distinctive way of life inherent to the Mediterranean region. Recent studies have revealed that the pillars of the MD, often associated with aspects like social connections and physical activity, stem from the ancient way of life in the region. This includes considerations related to the environment, climate, warfare, and the active lifestyle prevalent during ancient times. In the following discussion, it will be explored why the MD serves as an indicator of the Mediterranean lifestyle in ancient times, drawing from reported data spanning from antiquity to the present [26]. Although it has been reported that an active lifestyle and a proper diet [27,28] can serve as a non-pharmaceutical and cost-effective approach to prevent non-communicable diseases [29,30], geriatric syndromes [31-33], physical dysfunction [34], as well as it can enhance longevity [35], life expectancy [36], and overall well-being, the Mediterranean lifestyle encompasses additional aspects (pillars) of life and emphasizes their interconnectedness. As highlighted by Anna et al. (2011), beyond the high-quality nutrients selected in the Mediterranean diet (MD), there are cultural, social, nutritional, and lifestyle elements that contribute to its exceptional health benefits. This raises the question of whether the MD is a product of the way of life in the Mediterranean region, particularly in ancient times, and whether it has been transferred to the current era under the name of the MD [1].

Cultural Elements

Moderation or Frugality

Moderation, or frugality, is the first cultural and educational pillar highly focused and emphasized in the Mediterranean region [37,38]. Various authors have interpreted Socrates' ideas about the importance of moderation in various aspects of life, including pleasures derived from drink, sexual activity, and eating. It is argued that excessive indulgence in these pleasures can undermine the stoic attitude desirable in guardians, the protectors of the ideal city-state. Socrates suggests that suitable tales and stories for educating the guardians must glorify and encourage moderation in all activities, including obedience to superiors, temperance in drinking and eating, and restraint in sexual conduct. These tales should not only omit passages that might incite fear of death or the afterlife but also promote a sense of duty and dedication to the city's well-being. Furthermore, Socrates suggests that lying and falsehood are forbidden, although rulers may lie if necessary for the greater good. Ultimately, moderation in sexual activity, eating, and drinking is deemed essential for

the harmonious functioning of the city, with a particular emphasis on portraying gods and heroes in a favorable light and avoiding any depictions of them engaging in unflattering behaviors [39]. With respect to moderation, when considering the MD pyramid, the foods depicted at the lower levels should be consumed in larger portions and more frequently, as they offer satiety and moderate energy levels. Conversely, items at the upper levels should be consumed sparingly and less often due to their higher fat and simple sugar content. Serving sizes ought to mirror indigenous customs and regional dietary practices, thereby accommodating the unique characteristics of each locality and culture. Overall, the emphasis on moderation within the MD pyramid appears to reflect a culmination of cultural and educational influences from ancient philosophers in the region. Throughout history, philosophers' teachings promoted the idea of achieving balance and harmony in one's daily habits, aligning closely with the MD principles [40].

Social Elements

Social Connection and Culinary Activity

Eating together serves as the cornerstone of cultural identity and continuity across communities throughout the Mediterranean basin. It represents a pivotal moment of social exchange and communication, providing an opportunity for the affirmation and renewal of family, group, or community identity [41]. Through shared meals, individuals come together to forge and strengthen bonds, fostering a sense of belonging and solidarity that transcends generations and sustains cultural traditions. The MD embodies principles of hospitality, neighborliness, intercultural dialogue, and creativity, serving as a guiding framework for a way of life rooted in respect for diversity. This dietary tradition holds significant importance within cultural spaces, festivals, and celebrations, serving as a unifying force that brings together individuals of all ages, backgrounds, and social classes. By promoting shared meals and communal dining experiences, the MD fosters connections and strengthens bonds among diverse communities, enriching individual lives and collective cultural heritage [42].

The concept of the MD as a vehicle for social connection and cultural exchange has roots in the rich tapestry of ceremonies, festivals, trade networks, and traditional events that characterized ancient Mediterranean civilizations. Ceremonies and festivals allowed communities to come together, share meals, and reaffirm social bonds. These gatherings often featured traditional dishes prepared with locally sourced ingredients, reflecting the region's diverse culinary heritage. Sharing food during these events fostered a sense of unity and belonging among participants, transcending differences in language, religion, and social status [43].

Trade played a crucial role in shaping the MD by facilitating the exchange of culinary traditions and ingredients between different cultures. As merchants traversed the Mediterranean Sea, they brought spices, grains, fruits, and other commodities, enriching local cuisines and contributing to the diversity of the MD. Trade routes also served as conduits for cultural exchange, as travelers exchanged recipes, cooking techniques, and dining customs along their journeys [44].

In addition to the mentioned festivals, sports festivals were a prominent feature of ancient Mediterranean civilizations, serving various social, cultural, and political functions. In ancient Greece, sports festivals involved participation and spectators from all ages and genders, with athletes competing in various contests across different cities and states. Women also had their sports festivals, emphasizing the importance of physical activity and gender equality [45]. Similarly, ancient Rome and Egypt sport festivals focused on specific subjects, such as gladiators, superior soldiers, and the ruling elite, attracting wide audiences and showcasing power and prowess [46-48].

An influential pillar of the MD that contributes to its healthfulness and uniqueness is culinary activity. By advocating for the cultivation of culinary activities and encouraging active participation in cooking, the MD provides a rich array of flavorful and nourishing dishes while facilitating the preservation of cultural heritage and the passing down of culinary traditions from one generation to the next [26]. The engagement in cooking practices, particularly among children, fosters healthier eating habits and enhances overall well-being. The interventions that integrate cooking skills with nutrition education have demonstrated positive effects, including increased vegetable consumption, lower blood pressure in children, reduced reliance on fast food, and greater cooking satisfaction in adults [1]. However, there is a concerning decline in culinary engagement attributed to time constraints, lack of culinary knowledge, and dependence on convenience foods, despite the recognized benefits of preparing meals from scratch [6].

Nutritional Elements

Seasonal, Traditional, Biodiverse, and Eco-friendly Products

The preference for seasonal, traditional, fresh, and

minimally processed foods is integral to optimizing the nutritional benefits of the MD. Despite modern trends toward processed foods, technological advancements have enabled the preservation of nutrients and the availability of healthier alternatives [49]. Traditional knowledge, cultivated through generations within rural communities, plays a pivotal role in transmitting agricultural practices across time. The inclination toward seasonal ingredients is deeply rooted in the agricultural heritage of the Mediterranean. In ancient times, agriculture was the primary means of sustenance despite the challenges posed by the region's climate. The exchange of agricultural wisdom within these communities has fostered sustainable, responsible, and health-conscious behaviors [50]. Historically, Mediterranean societies faced the daunting task of cultivating the land multiple times a year due to seasonal constraints [51]. Although borne out of necessity, this reliance on seasonal produce significantly influenced dietary habits and lifestyle choices. Today, the emphasis on seasonal and fresh ingredients persists, which is evident in the MD pyramid. This dietary framework reflects historical agricultural practices and the enduring connection between food, culture, and the environment. The recognition of seasonal and fresh products as cornerstones of the MD underscores the enduring impact of ancient agricultural traditions on dietary preferences and behaviors.

In terms of eco-friendly practices, the MD, being predominantly plant-centered, plays a significant role in environmental preservation. By advocating for reduced animal consumption compared to Western dietary patterns, the MD lessens the demand for animal production, subsequently lowering the strain on soil, water, and energy resources [52]. This shift towards plant-based foods not only promotes environmental sustainability but also reflects the diet's adaptability to an increasingly globalized world. Overall, these aspects underscore the sustainable nature of the MD in promoting both human health and environmental well-being [50].

Regarding biodiversity, the Mediterranean region boasts a plethora of endemic species and a rich tapestry of landscapes, encompassing cultivated expanses, verdant grasslands, dense forests, and dynamic land utilization patterns. This profusion of agricultural biodiversity elevates the Mediterranean area to the status of a paramount global epicenter of ecological diversity [53]. Didier et al. indicated that the Mediterranean basin stands out as one of 34 global hotspots for species diversity, boasting high levels of species unique to the region alongside significant threats to its natural ecosystems. Despite covering less than 2% of Earth's landmass, it harbors 20% of the world's flowering plants and ferns. Similarly, the Mediterranean Sea, accounting for less than 1% of the global ocean surface, houses between 4% (sponges) and 17% (brown algae) of marine species worldwide. Additionally, the basin is a vital repository of wild relatives of economically valuable agronomic, horticultural, and forestry plants. The region's intricate history and diverse environmental factors play pivotal roles in nurturing this remarkable biodiversity. Concerning biodiversity-driven elements within the MD, it is apparent that diverse civilizations spanning the Mediterranean basin, with their varied geographical landscapes, climatic fluctuations, accessibility to food and ingredients, and cultural distinctions dating back to ancient times, have collectively fostered a rich environment conducive to the cultivation and availability of abundant natural food sources [54]. This, in turn, has engendered the development of a distinctive dietary regimen shaped by myriad factors, such as lifestyle practices, culinary traditions, food accessibility, and environmental influences.

Lifestyle Elements

Physical Activity and Proper Rest

Physical activity holds a distinctive position within the framework of the MD, serving as a vital link between its various pillars. It is important to recognize that physical activity in this context transcends mere bodily movement; rather, it embodies an active and purposeful lifestyle characterized by mindful engagement in daily tasks and intentional movement. Historical accounts reveal a deep integration of physical activity into various aspects of daily life within the Mediterranean region. Culinary practices, ceremonial rituals, household chores, labor tasks, and leisure pursuits all intertwined to form an active component of the Mediterranean lifestyle in ancient times. For instance, agriculture and animal husbandry emerged as predominant occupations, necessitating intensive manual labor due to limited equipment and facilities [51, 55, 56]. Consequently, individuals engaged in farming activities intensively to cultivate and harvest locally sourced, seasonal, and fresh ingredients for culinary purposes. Indeed, physical activity emerged as a pivotal mediator of the MD during this epoch, underscoring its fundamental role in shaping dietary practices and sustaining a holistic approach to well-being.

The historical records provide insights into the consistent pattern of daily movement among

inhabitants of the Mediterranean region, influenced by some factors, such as weather conditions, labor demands, and sunlight exposure. Typically, individuals engaged in labor for 8-12 h daily, adjusted according to seasonal variations, with a midday break taken during the hottest period. Variations in work hours are evident across different ancient Mediterranean cultures, with Greeks often working 8-12 h (extended to 12 h during harvesting seasons), Romans averaging 8-10 h, and Egyptians dividing their workday into two 6-h shifts to mitigate the effects of extreme heat. During breaks from work, individuals would utilize this time to rest, nourish themselves with food and water, and potentially partake in leisure activities.

In the realm of festivals, ceremonies, and communal gatherings, physical movement emerged as an inherent aspect of daily life. Social interactions often revolved around shared meals, attendance at public events, and participation in various forms of cultural expression, such as singing, dancing, and gaming. Across ancient Mediterranean cultures, leisure activities encompassed diverse physical pursuits, including ball games, swimming, wrestling, and running, each tailored to reflect regional nuances and preferences [57, 58]. These communal engagements fostered social cohesion and underscored the intrinsic connection between physical activity and societal interactions within the Mediterranean lifestyle.

In ancient Mediterranean societies, household activities were predominantly overseen by women, encompassing a wide array of tasks within both familial and societal contexts. Women played a pivotal role in the daily rhythm of life, engaging in various activities essential for sustaining their households and communities. These activities ranged from intricate crafts, such as weaving, wool working, and textile production, to vital agricultural tasks like fruit picking, plowing with oxen, and grain grinding. Additionally, women shouldered the responsibility of household chores, including cleaning, washing, baking, and cooking. Therefore, the central role of women in managing household affairs underscores the foundational significance of households in shaping and sustaining the MD [55, 59]. Interestingly, based on the recent evidence, engaging in short bursts of physical movement throughout the day, even at lower intensities, has been indicated to significantly reduce the risks associated with chronic diseases, such as cardiovascular disorders and premature mortality [63]. These brief periods of activity, which can be as simple as climbing stairs or walking, are particularly beneficial for individuals who may find it challenging to maintain longer, structured exercise routines. This approach offers a practical and effective way to integrate physical activity into daily life.

The practice of taking a post-meal nap is regarded as a cornerstone of the MD pyramid under the category of ensuring adequate rest [1, 6, 26]. Notably, the practice of taking a midday nap, known as the siesta, was widespread in regions with hot climates, including Spain, Italy, Greece, and Egypt. During the siesta, people sought refuge in cool, shaded areas, where they would indulge in a brief nap or relaxation period, often following a light meal [60, 62]. The duration of the siesta varied from a few minutes to several hours, reflecting individual preferences and cultural norms prevalent in each respective region. Although it may seem unconventional to include a sleep pillar in the modern interpretation of the MD, historical evidence suggests that ancient societies placed significant value on maintaining a regular sleep schedule and prioritizing adequate rest. Records indicate that people in ancient times recognized the importance of restorative sleep for overall well-being and often utilized various herbs and plant extracts as sleep aids and remedies [60, 61]. Indeed, considering the evidence presented, it becomes evident that the inclusion of rest as a pillar in the MD pyramid serves multiple purposes beyond merely promoting better sleep through nutrition. Rest plays a crucial role in facilitating post-meal periods conducive to enhanced productivity and task performance. This historical practice of integrating rest into daily routines underscores the importance of holistic well-being within the Mediterranean lifestyle, as reflected in the principles of the MD. This issue underscores the intrinsic connection between rest time and health in their daily lives. Moreover, historical approaches to addressing sleep disorders through nutritional means further highlight the interplay between diet and sleep within their lifestyle practices. In this regard, recently, Paul et al., in a systematic review and meta-analysis, reported that daytime napping in the afternoon improved cognitive performance with beneficial effects of early naps [64], which support the ancient practice of post-meal naps in the Mediterranean region.

Conclusion

The modern understanding of the MD and its associated health benefits is deeply rooted in the historical way of life prevalent in the Mediterranean region. The MD pyramid reflects a lifestyle where social interactions, physical activity, rest, and cultural practices are seamlessly integrated into daily life. These elements, deeply ingrained in the ancient Mediterranean way of living, are shaped by the

region's geographical, climatic, and cultural context. For instance, the emphasis on communal meals and social gatherings is not just about nutrition but also regarding the fostering of strong community bonds, which has always been a cornerstone of Mediterranean life. Similarly, the diet's focus on locally sourced and seasonal produce highlights a traditional approach to environmental sustainability. The practices surrounding food preparation and consumption have evolved from ancient customs that respected local resources and seasonal variations. Therefore, the MD is not merely a dietary pattern but a reflection of a holistic Mediterranean lifestyle that values social connection, cultural heritage, and environmental mindfulness. This comprehensive approach to well-being underscores how the MD is intricately linked to the broader cultural and environmental context of the Mediterranean region [65].

Ethical Considerations

Compliance with ethical guidelines

The review adhered to the principles of ethical scholarship, including proper citation and acknowledgment of all sources.

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Authors' contributions

Conceptualization: M.K., M.M., and L.S.; Writing—original draft preparation: M.K and M.M; Writing—review results on health aspects of MD: M.K and M.M.; Visualization: M.K and L.S; Editing: L.S.; Supervision: L.S.; Project administration: M.K and L.S. All authors have read and agreed to the published version of the manuscript.

Conflicts of interest

The authors declare that there are no conflicts of interest.

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