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The Impact of Mediterranean Diet on Global Challenges

Vourdoubas John
Consultant Engineer, 107B El. Venizelou Str., 73132, Chania, Crete, Greece

ABSTRACT: Mediterranean diet is considered healthy compared to typical western diets while it was used by populations residing in Mediterranean basin since centuries. Several studies indicate that Mediterranean diet offers many health and environmental benefits. The positive impacts of this diet in treating various global challenges have been examined. Reviewing several published papers the impacts of Mediterranean diet on managing obesity and malnutrition, on climate change mitigation and in the achievement of the sustainable development goals have been investigated. The results indicate that the use of Mediterranean diet helps in treating obesity and malnutrition, while it contributes positively in climate change mitigation and in achieving the 17 sustainable development goals. Unfortunately, for several reasons, the traditional Mediterranean diet has been nowadays replaced by unhealthy western type diets burdening various global challenges that humanity faces. Our work is important since it indicates that the change of our dietary pattern shifting from western diet to Mediterranean diet will result in the mitigation of several global challenges. The results of the present study could be useful to medicinal doctors, policy makers, public authorities, non-governmental environmental organizations and other institutions related with the abovementioned issues.

KEYWORDS: climate change, impacts, obesity, malnutrition, Mediterranean diet, sustainable development goals

1. INTRODUCTION

The global community currently is facing several challenges including climate change, increasing obesity and malnutrition as well as achievement of the sustainable development goals (SDGs) by 2030. Several studies indicate that dietary patterns affect the abovementioned global challenges. Many studies have revealed that Mediterranean diet (MD), that has been included as intangible cultural heritage in UNESCO's catalogue [1] has many health and environmental benefits including obesity management [2, 3, 4, 5] climate change mitigation [6, 7, 8] reduced malnutrition [9, 10] and facilitation in the achievement of the SDGs of United Nations (UN) [11, 12, 13]. MD is characterized by consumption of fruits, vegetables, cereals, grains, olive oil, very low consumption of red meat and moderate consumption of fish and chicken.

The aim of the current work is to examine the impacts of Mediterranean diet on several global challenges such as climate change, increasing obesity and malnutrition as well as the achievement of the 17 SDGs.

The current study is innovative since it examines the interrelation between MD and climate change, increasing obesity and malnutrition as well as the achievement of SDGs. It fills an existing gap regarding the interconnection and interlinkage of dietary patterns with several global challenges. The results could be useful to policy makers, public authorities, non-governmental organizations, medicinal doctors, farmers and food companies.

2. LITERATURE SURVEY

The inclusion of MD as intangible cultural heritage in UNESCO's catalogue in 2010 has been studied (1). The author stated that MD as an eating pattern is not in line with traditional diets. She also mentioned that apart from the physical health benefits MD promotes environmental sustainability. The interrelation of MD with obesity has been examined (2). The authors stated that several socio-economic factors have caused a large portion of the population to adopt unhealthy eating habits increasing the body weight. They mentioned that the MD is associated with health benefits and has preventive effects towards obesity. The MD and the obesity-related disorders have been explored (3). The authors stated that the negative effects of obesity can be partly reversed with the use of MD. They mentioned that the composition of MD has been correlated with reduction of dyslipidemia. The influence of MD to obesity has been investigated (4). The authors stated that MD has been proposed as an eating pattern that can promote health and possibly contribute to the fight against obesity. They mentioned that they did not find a causal link between MD and body mass index. The impact of MD on weight loss and obesity-related diseases has been studied (5). The authors stated that MD is the

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healthiest dietary pattern available to fight non-communicable diseases and prolong lifespan while it might be preferable to other diets for weight control. The interconnection of the MD with climate change and sustainability has been studied (6). The authors stated that this diet is highly recommended for health promotion having also beneficial environmental impacts. The relation between climate change and MD has been explored (7). The authors stated that sustainable diets, particularly the Mediterranean diet, offer health benefits and lower environmental impacts but it is threatened by climate change-induced disruption. The mitigation of climate change through dietary change has been investigated (8). The authors stated that healthy diets include high plant-sourced food and low animal-sourced food. They also mentioned that the adoption of diets with low environmental impacts offer an important opportunity for both climate change mitigation and health benefits through the food system. The relation between diet quality and malnutrition has been examined (9). They authors stated that adherence to high-diet quality was associated with lower frequency of malnutrition among older adults. The interlinkage between malnutrition, food insecurity and adherence to the MD has been studied (10). The authors stated that there is a significant relationship between food insecurity and malnutrition. They mentioned that it is important to take precautions regarding food insecurity in the older fragile adult group to avoid malnutrition. The adoption of MD for achieving the SDGs of UN has been studied (11). The authors stated that MD has been included in the intangible cultural heritage of humanity by UNESCO in 2010. They also mentioned that MD is a tool for achieving the 17 SDGs by 2030. The role of nutrition in the context of SDGs has been examined (12). The authors stated that nutrition is a key issue for SDG2 (end hunger), achieve food security, improve nutrition and promote sustainable agriculture. They mentioned that nutrition is an essential component for achieving other SDGs. A report regarding the SDGs of UN has been published (13). The report presents several indexes related with the achievement of SDGs stating that the 17 SDGs should be achieved by 2030. The MD, the obesity problem and the environmental sustainability have been reviewed (14) . The authors reviewing the literature stated that MD was associated with positive health outcomes and environmental sustainability. The relation of MD with obesity and public health has been analyzed (15). The authors stated that there is a clear relationship between lifestyle and obesity while in Mediterranean basin MD may represent an interesting corrective asset. The impacts of obesity, metabolic syndrome and MD on depression have been analyzed (16). The authors stated that both obesity and metabolic syndrome predict a worst outcome of depression. They mentioned that low adherence to MD does not worsen depression prognosis. The impacts of MD on obesity in a Spanish population have been studied (17). The authors stated that adherence to MD was negatively associated with changes in abdominal adiposity that indicates the usefulness of MD for the prevention of obesity. The MD and its contribution in nutritional adequacy have been reviewed (18). The authors stated that the use of foods typical to MD are related to a better nutrient profile preventing micronutrients deficiencies. The impacts of MD on elderly patients' health have been explored (19). The authors stated that nutritional status in hospitalized older patients play an important role on several health outcomes. They mentioned that adoption of MD results in better lipid profile and reduction of abdominal obesity. The sustainable food systems and the MD have been studied (20). The author stated that this diet is healthy and has many economic and socio-cultural benefits. He mentioned that several stakeholders should be mobilized to promote MD. The relation between climate change and nutrition focusing on Eastern Mediterranean region has been investigated (21). The authors stated that in Eastern Mediterranean region climate change is related with adverse effects on water and food security. They mentioned that the nutritional status of the population will be worsen due to climate change. The relation between sustainable food systems and healthy diets have been analyzed (22). The authors stated that sustainable food systems and healthy diets are the main key-players to achieve a sustainable planet and to be in line with the achievement of the 17 SDGs of the United Nations. The nexus among MD, obesity and climate change has been examined (23). The author stated that obesity and climate change are mutually interlinked while the use of MD can reduce the obesity rates and mitigate climate change. He also mentioned that MD has also lower environmental impacts compared to western diets. The role of Mediterranean and other diets in Italian society has been analyzed (24). The authors stated that healthy dietary choices, such as MD, represent a desirable option nowadays when considering the traditional dietary habits of populations living in Mediterranean basin. The Mediterranean food consumption patterns have been explored (25). The authors stated that MD is associated with reduced mortality and lower risk for metabolic chronic diseases. It has also low ecological carbon and water footprints due to its high share of plant-based food. The achievement of SDGs through the MD has been analyzed (26). The authors stated that sustainable food systems, including the MD, contribute in achieving the SDGs by providing healthy diets for all, promoting environmental preservation and preventing non-communicable diseases. The sustainability dimensions of MD have been studied (27). The authors stated that MD has low environmental impact compared to western type diets including low carbon footprint, low water footprint and low ecological footprint. Regarding the nutritional

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aspects, MD has a high nutritional quality while its cost was similar to the cost of other diets. The shift to a MD and the sustainable transformation of the Greek agri-food system have been analyzed (28). The authors stated that the transition to healthy MD results in environmental and health benefits. They mentioned that adoption of MD in Greece offers the opportunity to transform its agri-food system. The impacts of MD on health, environment and culture have been examined (29). The authors stated that the value of MD lies in its holistic approach that links human well-being with ecological balance and social cohesion. They mentioned that MD is an ideal candidate to promote global sustainable food policies. The environmental concerns of Mediterranean dietary pyramid have been analyzed (30). The authors updated this pyramid towards sustainability reflecting multiple environmental concerns. They mentioned that MD complies with at least 11 out of 17 SDGs of United Nations. The interconnection of MD, sustainable nutrition and environmentally friendly food choices has been analyzed (31). The authors stated that some strategies should be developed to increase the adaptation of individuals to MD and sustainable nutrition. They mentioned that sustainable nutrition should be promoted to increase the health benefits in humans and minimize the environmental degradation. The genetic basis of childhood obesity has been explored (32). The authors stated that the pathogenesis of polygenic obesity is multifactorial and is due to the interaction among genetic, epigenetic and environmental factors. The mentioned that the decoding of the genetics of obesity, the individual genotype and the gene-environmental interactions will allow the design of personalized intervention programs to reduce adiposity early in life. The effect of a multidisciplinary personalized intervention program to obese people on their health has been investigated (33). The authors stated that the implementation of a personalized lifestyle intervention program in overweight and obese people improves their health. The relation between obesity management and climate change in Greece has been examined (34). The author stated that two major global problems of our era, climate change and obesity, are interlinked and interconnected. He mentioned that climate change has undesired impacts in obesity treatment in Greece while obesity treatment contributes positively in climate change mitigation. The differences between MD and western type diets are presented in table 1.

Table 1. Differences between Mediterranean diet and western type diets

Food ingredients in Mediterranean diet	Food ingredients in western type diets
1. Fruits and vegetables (daily, high variety) 2. Whole grains (whole wheat, barley, oats) 3. Legumes (beans, lentils, chickpeas) 4. Nuts and seeds 5. Olive oil as the primary fat 6. Fish and seafood (regularly) 7. Poultry, eggs, and dairy (moderate amounts) 8. Red meat and sweets (rare)	1. Refined grains (white bread, pasta, pastries) 2. Red and processed meats (burgers, sausages, bacon) 3. Fried and fast foods 4. Sugary snacks and desserts 5. High-fat dairy products 6. Sugary drinks and ultra-processed foods

Source: various authors

3. GLOBAL CHALLENGES IN OUR ERA

Our era is characterized by several challenges including increasing obesity, undernutrition, and climate change. These three crises may appear distinct, but they are deeply interconnected. Modern food systems, driven by industrial agriculture and globalized supply chains, promote the overconsumption of ultra-processed foods while simultaneously undermining access to nutritious diets. This contributes to rising obesity rates in some populations and persistent undernutrition in others. At the same time, these systems are major drivers of greenhouse gas emissions, accelerating climate change, which in turn threatens food security through extreme weather events, droughts, and biodiversity loss. The coexistence and interaction of multiple problems within contexts of social inequality is particularly dangerous. Poverty, limited education, inadequate housing, and restricted access to healthcare all amplify vulnerability. For example, marginalized communities are more likely to experience poor nutrition, live in environmentally degraded areas, and lack resources to adapt to climate-related shocks. As a result, health outcomes worsen in ways that cannot be addressed by medical interventions alone. Addressing multiple and interacting problems therefore requires systemic solutions. Policy responses must integrate public health, environmental sustainability, and social justice. This includes transforming food systems, reducing carbon emissions, strengthening primary healthcare, and tackling the root causes of inequality. In essence, the multiple global problems challenge the world to move beyond fragmented thinking and adopt holistic approaches that recognize health as a

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product of interconnected social and ecological systems. Achieving the 17 SDGs presents an additional profound global challenge due to their scale, complexity, and interdependence. Adopted by the UN in 2015, the SDGs aim to end poverty, protect the planet, and ensure prosperity for all by 2030. However, progress has been uneven and slow, particularly in low- and middle-income countries. Another major challenge is inequality. Economic disparities within and between countries limit access to education, healthcare and clean energy, undermining multiple goals simultaneously. The interconnected nature of the goals means progress in one area often depends on success in others, making isolated solutions ineffective.

4. THE IMPACT OF THE MEDITERRANEAN DIET ON OBESITY

Obesity is a growing global public health concern, affecting people of all ages and significantly increasing the risk of non-communicable diseases such as type 2 diabetes, cardiovascular disease, and certain cancers. According to the World Health Organization, obesity has nearly tripled worldwide over the past decades, largely driven by unhealthy dietary patterns, sedentary lifestyles, and increased consumption of ultra-processed foods. In this context, MD has gained considerable attention as an effective, sustainable, and culturally grounded dietary approach for obesity prevention and management. MD is characterized by a high intake of fruits, vegetables, whole grains, legumes, nuts, and seeds; olive oil as the primary source of fat; moderate consumption of fish, poultry, eggs, and dairy products; and limited intake of red and processed meats and sugary foods. Unlike restrictive diets that focus on calorie reduction alone, the MD emphasizes food quality, dietary balance, and long-term adherence, making it particularly effective in addressing obesity. One of the key mechanisms through which the MD helps prevent obesity is its high fiber content. Whole grains, legumes, fruits, and vegetables promote satiety by slowing gastric emptying and regulating appetite-related hormones. Increased satiety reduces overall energy intake and helps prevent overeating. The type of fat consumed in the MD also plays a crucial role in weight management. Olive oil, rich in monounsaturated fatty acids and bioactive compounds such as polyphenols, improves lipid metabolism and insulin sensitivity. Unlike saturated and trans fats commonly found in processed foods, healthy fats contribute to feelings of fullness and reduce cravings, supporting better control of body weight without the need for severe dietary restriction. Another important factor is the low energy density of Mediterranean meals. Fruits, vegetables, and legumes have high water and fiber content but relatively low caloric value, allowing individuals to consume satisfying portions while maintaining moderate calorie intake. This contrasts sharply with energy-dense, ultra-processed foods that are high in refined carbohydrates, added sugars, and unhealthy fats, which contribute significantly to weight gain. Beyond nutritional composition, the MD is closely linked to lifestyle behaviors that support obesity prevention. Traditional Mediterranean eating patterns encourage regular meal timing, mindful eating, home cooking, and shared meals with family and community. These practices help regulate eating behaviors, reduce emotional and stress-related overeating, and foster healthier relationships with food. Physical activity, such as walking and daily movement, is also an integral part of the Mediterranean lifestyle and further enhances energy balance. Scientific evidence strongly supports the role of the MD in obesity management. Numerous observational studies and clinical trials have shown that adherence to this dietary pattern is associated with lower body mass index, reduced waist circumference, and decreased abdominal fat. Importantly, individuals following the MD tend to maintain weight loss more effectively over time compared to those following low-fat or highly restrictive diets, highlighting its sustainability. The cultural and social dimensions of the MD further enhance its effectiveness. Its recognition by UNESCO as an Intangible Cultural Heritage of Humanity underscores its role in promoting balanced eating habits, social cohesion, and long-term dietary adherence. These factors are essential in addressing obesity, which is influenced not only by biological but also by social and environmental determinants. The categorization of body weight according to mass index is presented in table 2.

Table 2. Body mass index and categorization of body weight

Body mass index	Body weight categorization
<18.5	Underweight
18.5-25	Normal
25-30	Overweight
>30	Obese

Source: various authors

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5. THE ROLE OF THE MEDITERRANEAN DIET IN PREVENTING MALNUTRITION

Malnutrition remains a major global public health challenge, affecting both low- and high-income countries in the forms of undernutrition, micronutrient deficiencies, and overnutrition. Addressing malnutrition requires dietary patterns that are nutritionally adequate, culturally acceptable, and sustainable over the long term. The MD, rooted in the traditional eating habits of countries bordering the Mediterranean Sea, offers an effective model for preventing multiple forms of malnutrition. Characterized by high consumption of fruits, vegetables, whole grains, legumes, nuts, and olive oil, alongside moderate intake of fish, dairy, and limited red meat, this dietary pattern provides balanced nutrition across the life course. One of the key strengths of the MD in preventing malnutrition is its high nutrient density. The diet supplies adequate energy while providing essential macronutrients and a wide range of micronutrients, including vitamins A, C, E, and B-complex vitamins, as well as minerals such as iron, calcium, magnesium, potassium, and zinc. Fruits, vegetables, and legumes are rich sources of fiber and antioxidants, which support immune function and overall health. This diversity helps prevent micronutrient deficiencies, often referred to as "hidden hunger," which remain prevalent in vulnerable populations. The MD also plays a crucial role in preventing undernutrition and protein-energy malnutrition. Legumes, whole grains, nuts, fish, eggs, and dairy products offer high-quality proteins and healthy fats that support growth, muscle maintenance, and cognitive development. Unlike diets heavily dependent on a single staple food, the MD encourages dietary diversity, which is essential for meeting nutritional requirements, particularly among children, pregnant women, and older adults. At the same time, the MD is highly effective in addressing overnutrition and diet-related non-communicable diseases, a growing component of the global malnutrition burden. Its emphasis on plant-based foods, unsaturated fats from olive oil, and limited intake of ultra-processed foods helps prevent obesity, type 2 diabetes, and cardiovascular disease. Balanced portion sizes and regular physical activity, traditionally associated with the Mediterranean lifestyle, further support healthy body weight and metabolic health. Another important factor in malnutrition prevention is food accessibility and affordability. The MD relies on locally available, seasonal foods and simple culinary practices, making it adaptable to different socioeconomic contexts. Traditional meals are often based on inexpensive ingredients such as legumes, grains, and vegetables, which can improve food security and dietary adequacy in resource-limited settings. This accessibility contributes to more resilient and equitable food systems, as emphasized by the Food and Agriculture Organization.

6. THE IMPACT OF THE MEDITERRANEAN DIET ON CLIMATE CHANGE MITIGATION

Climate change is one of the most pressing global challenges of the 21st century, driven largely by greenhouse gas (GHG) emissions from energy production, transportation, and food systems. Among these, food production—particularly livestock farming—contributes significantly to global emissions, land degradation, and water use. In this context, the MD emerges as an effective and culturally grounded model for climate change mitigation. Characterized by high consumption of plant-based foods, olive oil as the main source of fat, moderate intake of fish and dairy, and limited consumption of red and processed meats, the MD offers a low-impact dietary pattern that aligns health promotion with environmental sustainability. One of the primary ways the MD mitigates climate change is through its reduced carbon footprint. Diets rich in red meat are associated with high GHG emissions, particularly methane from ruminant livestock and carbon dioxide from feed production and land-use change. In contrast, the MD prioritizes legumes, whole grains, fruits, vegetables, and nuts, which require fewer natural resources and emit significantly lower levels of GHG per unit of protein produced. By shifting dietary patterns away from meat-heavy consumption, widespread adoption of the MD could substantially lower emissions from the agricultural sector. The MD also supports sustainable land and water use, both of which are closely linked to climate mitigation. Plant-based foods generally require less land and water than animal products, reducing pressure on forests and natural ecosystems that act as carbon sinks. Traditional Mediterranean agricultural practices emphasize seasonal, local, and diverse crops, which help maintain soil fertility, enhance carbon sequestration, and preserve agrobiodiversity. These practices reduce the need for synthetic fertilizers and pesticides, whose production and use contribute to GHG emissions and environmental degradation. Another important climate-related benefit of the MD lies in its emphasis on sustainable fisheries and moderate consumption of animal-source foods. Fish and seafood, consumed in moderation, replace more carbon-intensive red meats, while traditional Mediterranean food cultures promote respect for marine ecosystems. Responsible fishing practices help protect ocean biodiversity and maintain the oceans' role in carbon regulation. Additionally, moderate dairy consumption limits emissions associated with intensive livestock production while still providing essential nutrients. Food waste reduction is another critical component of climate change mitigation supported by the MD. Traditional Mediterranean food cultures

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value whole foods, home cooking, and leftover reuse, which collectively reduce food waste at the household level. Since food waste accounts for a significant share of global GHG emissions, minimizing waste contributes directly to lowering the climate impact of food systems. Finally, the MD represents not just a set of food choices but a sustainable lifestyle that integrates environmental awareness, cultural heritage, and social responsibility. By encouraging dietary shifts that are both climate-friendly and culturally acceptable, the MD offers a realistic and scalable approach to climate change mitigation. The main impacts of climate crisis are presented in table 3.

Table 3. The main impacts of climate crisis

1	Rising global temperatures
2	Melting glaciers and polar ice
3	More extreme weather
4	Ocean warming and acidification
5	Biodiversity loss
6	Threats to food security
7	Water scarcity
8	Health risks
9	Climate displacement
10	Increased inequality

Source: own estimations

7. THE IMPACT OF THE MEDITERRANEAN DIET ON THE ACHIEVEMENT OF THE 17 SUSTAINABLE DEVELOPMENT GOALS

The MD is widely recognized not only as a healthy dietary pattern but also as a powerful model for sustainable development. Rooted in the traditional food cultures of countries surrounding the Mediterranean Sea, it emphasizes plant-based foods, whole grains, legumes, fruits, vegetables, olive oil, moderate consumption of fish and dairy, and limited intake of red meat. Beyond its nutritional benefits, the MD contributes significantly to the achievement of the 17 SDGs established by the UN, by integrating health, environmental sustainability, social equity, and economic resilience. First, the MD directly supports SDG2 (Zero Hunger) and SDG3 (Good Health and Well-being). Its nutrient-dense composition helps prevent malnutrition, obesity, cardiovascular diseases, diabetes, and certain cancers. By promoting balanced nutrition across all age groups, it enhances population health and reduces the burden on healthcare systems. Improved health outcomes also contribute to SDG1 (No Poverty) by lowering healthcare costs and increasing productivity. From an environmental perspective, the MD strongly aligns with SDG12 (Responsible Consumption and Production) and SDG13 (Climate Action). The diet relies heavily on plant-based foods, which generally require fewer natural resources and generate lower greenhouse gas emissions compared to meat-heavy diets. Seasonal, local food consumption reduces food miles and energy use, while traditional farming practices help preserve biodiversity, supporting SDG15 (Life on Land) and SDG14 (Life Below Water) through sustainable fisheries and reduced pressure on marine ecosystems. The MD also contributes to SDG8 (Decent Work and Economic Growth) and SDG9 (Industry, Innovation and Infrastructure) by supporting local agriculture, small-scale farmers, and traditional food industries. These activities foster rural development, create employment opportunities, and strengthen local economies. By encouraging fair trade and short food supply chains, the diet promotes SDG10 (Reduced Inequalities) within and between communities. Social and cultural dimensions of the MD further enhance its relevance to sustainable development. Recognized as an Intangible Cultural Heritage of Humanity by UNESCO, it promotes shared meals, intergenerational knowledge transfer, and strong community bonds. These values contribute to SDG4 (Quality Education) through food literacy, SDG5 (Gender Equality) by acknowledging the role of women in food preparation and knowledge preservation, and SDG11 (Sustainable Cities and Communities) by strengthening social cohesion. The sustainable development goals are presented in table 4 while the impacts of MD on major global challenges are presented in table 5.

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Table 4. The 17 sustainable development goals

1	No poverty
2	Zero hunger
3	Good health and well-being
4	Quality education
5	Gender equality
6	Clean water and sanitation
7	Affordable and clean energy
8	Decent work and economic growth
9	Industry, innovation and infrastructure
10	Reduced inequalities
11	Sustainable cities and communities
12	Responsible consumption and production
13	Climate action
14	Life below water
15	Life on land
16	Peace, justice and strong institutions
17	Partnership for the goals

Source: [13]

Table 5. Impacts of Mediterranean diet on major global challenges

Impact on obesity management	Impact on malnutrition	Impact on climate change	Impact on the achievement of SDGs
MD emphasizing on nutrient-dense foods, healthy fats, dietary fiber, and supportive lifestyle practices, helps regulate appetite, improve metabolic health, and promote sustainable weight control	MD providing nutrient-dense, diverse, and balanced meals while remaining culturally acceptable and sustainable, it addresses undernutrition, micronutrient deficiencies, and overnutrition simultaneously.	MD can play a meaningful role in mitigating climate change by reducing greenhouse gas emissions, conserving natural resources, supporting sustainable agriculture and fisheries, and minimizing food waste.	MD addressing simultaneously health, environmental protection, economic development, and cultural preservation, offers a practical and effective pathway toward the achievement of 17 SDGs.

Source: own estimations

8. DISCUSSION

The interrelation of MD with obesity, malnutrition, climate change and the achievement of the 17 SDGs has been examined. Many studies indicate that adoption of MD can help in obesity management and in malnutrition reduction. MD represents a powerful and holistic approach to prevent and manage obesity. As obesity rates continue to rise globally, the MD offers a practical, evidence-based solution that supports both individual health and broader public health goals. Other studies indicate that adoption of MD results in climate change mitigation. The food ingredients included in MD have lower carbon footprint compared to ingredients in typical western diet. Adoption of MD can help in the achievement of the 17 SDGs. Our findings indicate that adoption of MD has many benefits and helps in coping with the abovementioned global challenges. As countries seek effective strategies to improve nutritional outcomes, the MD offers a proven and adaptable model for promoting optimal nutrition and long-term health. As global food systems seek solutions to address climate challenges, the MD stands out as a practical and evidence-based model for a more sustainable future. Therefore, the MD is far more than a nutritional guideline. It is a comprehensive, sustainable lifestyle model. Governments in countries located in Mediterranean region should develop policies that promote the MD improving the health of their citizens and reduce the environmental impacts in their countries. Our study is qualitative and does not give quantitative results

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related with the cost of different types of diets. It does not give quantitative results regarding the impacts of MD to obesity reduction and to climate change mitigation. Future studies should be focused in estimation of the benefits due to changes of the dietary patterns – from western diet to MD - in Mediterranean countries.

9. CONCLUSIONS

The impacts of Mediterranean diet on several global challenges such as climate change, high obesity rates, malnutrition and the achievement of the 17 SDGs have been explored. It has been indicated that:

a) MD is an effective, sustainable, and culturally grounded dietary approach for obesity prevention and management. It is associated with lower body mass index, reduced waist circumference, and decreased abdominal fat,
b) The MD offers an effective model for preventing multiple forms of malnutrition. It provides essential macronutrients and a wide range of micronutrients, including vitamins A, C, E, and B-complex vitamins, as well as minerals such as iron, calcium, magnesium, potassium, and zinc,
c) MD is characterized by high consumption of plant-based foods, olive oil as the main source of fat, moderate intake of fish and dairy, and limited consumption of red and processed meats. Production of these foods is related with low carbon emissions as well as low water and land area use,
d) Beyond its nutritional benefits, MD contributes significantly to the achievement of the 17 SDGs established by the United Nations.

Therefore, adoption of MD has many benefits including obesity and malnutrition management, mitigation of climate change and support in the achievement of the SDGs.

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