

## STRATEGIC MANAGEMENT APPROACHES TO IMPLEMENTING A HEALTH-PROMOTING FOOD LABELING SYSTEM

Radziejowska M., Thirakulwanich A. \*

**Abstract:** This study centers on examining the advantages of incorporating the Mediterranean Diet into food labeling practices, widely recognized for its positive effects on health and longevity among Mediterranean populations. More specifically, it explores the potential of utilizing the Mediterranean Index (*Med Index*) for this purpose. The *Med Index* is a strategic tool to guide patrons towards healthier food choices aligned with the Mediterranean Diet, particularly those with cardiovascular concerns. This research conducts a systemic examination of the normative papers of the European Commission and scientific articles sourced from databases including Scopus, WoS and Google Scholar. The objective is to assess the efficacy and potential of the *Med Index* in fostering improved dietary practices. The primary aim of this labeling approach is to provide customers with knowledge regarding the impact of dietary choices on health. The analysis of the review articles discusses integrating circular economy principles into the Mediterranean diet, citing the BS 8001 standard as a crucial framework. The researchers recommend further research to understand consumer perceptions of the *Med Index* and its impact on food choices. Collaboration with stakeholders is crucial for successful implementation, and a long-term assessment of the diet's sustainability and environmental impact is needed, while public awareness campaigns and policy recommendations are vital for promoting the Mediterranean diet and the *Med Index*.

**Key words:** Food Labeling, Strategic Management, Mediterranean Index, Med Index, Cardiovascular Diseases

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### Introduction

Considering their intended use, foods for particular nutritional uses include dietary foods for special medical purposes (Holmes et al., 2021; Mu et al., 2023; Santini et al., 2018; Dziuba and Szczyrba, 2023). Undoubtedly, individuals suffering from cardiovascular diseases are one of the primary consumers of such foods. Well-balanced nutritional habits, diverse and energetically balanced diet, and active

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\* **Radziejowska Maria**, Prof., DSc., Czestochowa University of Technology, Faculty of Management, Poland;

✉ corresponding author: maria.radziejowska@pcz.pl,

ORCID: 0000-0002-9845-390X

**Anuphat Thirakulwanich**, Stamford International University, Faculty of Business and Technology, Thailand;

✉ email: gunthira.t7@gmail.com,

ORCID: 0000-0002-8462-8561

lifestyle are the main factors decreasing the likelihood of developing cardiological diseases (Fanzo et al., 2023; Pudło and Respondek, 2014). Many factors influence the prevalence of cardiovascular diseases. Some of them, e.g., genetic predispositions (endogenous factors), do not change, while it is possible to modify the so-called exogenous factors, e.g., eating habits and other lifestyle factors (stress, smoking, physical activity) (Dyńska et al., 2023; Duda et al., 2001). A diet rich in saturated fats and cholesterol significantly increases the risk of cardiovascular diseases (Antoni, 2023; Duda et al., 2001). In contrast, rational eating habits significantly decrease the risk of cardiovascular diseases. The conducted studies indicated that a significant part of the respondents were overweight or obese. This issue, visible both in men and women, is one of the leading causes of the risk of developing cardiological diseases (Pudło and Respondek, 2014; Wang et al., 2023). From a strategic management perspective, it is crucial to understand and control these modifiable exogenous influences. Strategic management can optimize these factors by employing data-driven decision-making, continuous feedback loops, and proactive stakeholder engagement to foster better health outcomes (Nordin and Ravald, 2023; Sony et al., 2023). In advancing the discussion on the role of strategic management in public health nutrition, specifically about individuals with cardiovascular disease (CVD), the importance of stakeholder participation should be considered. The involvement of various stakeholders, including patients, healthcare professionals, and food manufacturers, offers significant value by providing valuable insights that can influence the development and implementation of programs to boost health (Laurisz et al., 2023; Mozaffarian et al., 2018; Buczkowska et al. 2023). Understanding patients' preferences, limits, and real-life experiences makes it possible to tailor strategies to maximize the acceptability and adherence to dietary recommendations. Strategic management has the potential to facilitate collaborative endeavors among nutritionists, cardiologists, and food technologists.

Strategic incorporation of health-promoting labels, like the Mediterranean Diet's symbols or cardiovascular-friendly badges, can simplify decision-making for those at risk. When backed by scientific evidence and regulatory approvals, these visual cues can significantly enhance products' trustworthiness and reliability (Taylor et al., 2010). Furthermore, a well-strategized food labeling system can also counteract misleading marketing practices (Shangguan et al., 2019). In a market saturated with terms like 'natural,' 'organic,' and 'heart-healthy,' it is imperative to differentiate evidence-based claims from mere marketing gimmicks (Hand, 2017; Lewis and Harris, 2015). Regulatory agencies and food producers have a duty to take a responsible stance in this matter, considering the possible health effects on susceptible customers. To address these concerns, the following research questions were proposed to guide the study:

1. What are the potential benefits of incorporating the Mediterranean Diet into food labeling practices in addressing the dietary needs of cardiovascular patients?

2. How effective is the Mediterranean Index (*Med Index*) at guiding consumers toward healthier Mediterranean Diet food choices, especially for cardiovascular patients?

3. How effective is strategic management in implementing, promoting, and adapting food labeling activities to improve consumer diets and address changing medical guidelines?

#### ***The Mediterranean Diet and Cardiovascular Diseases***

The Seven Countries Study (1958–1964), which included Japan, Greece, former Yugoslavia, Italy, the Netherlands, USA and Finland, showed a relationship between mortality rates related to ischaemic heart disease and diet. A positive correlation was found between the consumption of butter, pastries, meat, milk, (hard) margarine, lard, and sugar and the mortality rate, whereas a negative correlation was found for legumes, fish, and vegetables (Menotti and Puddu, 2015; Pett et al., 2017). The traditional Mediterranean diet from the early 1960s is characterized by high consumption of vegetables, fruit, cereal products, and grain legumes, consuming olive oil as the primary source of fats, moderate consumption of dairy and fish, low consumption of meat, and moderate consumption of wine with meals.

After minor changes aiming at adjusting it to local dietary habits, the Mediterranean diet can also be followed in other European Countries (Sikalidis et al., 2021). The basic dietary recommendations for individuals with cardiovascular diseases include reducing the consumption of saturated fatty acids and increasing the consumption of mono- and polyunsaturated fatty acids, reducing salt consumption, and reducing body weight (in the case of overweight and/or obese individuals) (Capra et al., 2023). Literature data indicate that an advantage of the Mediterranean diet involves decreasing the risk of cardiovascular diseases and some types of cancer (Potentas et al., 2015; Tosti et al., 2018).

Also, current and randomized clinical trials have confirmed that the Mediterranean diet and increased physical activity are the main tools for maintaining proper body weight (Dominguez et al., 2023; Finicelli et al., 2022). That is why the rules of the Mediterranean diet should comprise a model diet plan for all the populations in the world. Following the Mediterranean diet under Polish conditions is possible, and it involves eating native dishes and foodstuffs in appropriate proportions (Uylaşer and Yildiz, 2014). Such an appropriate diet plan can be created with typically Polish foods similar in terms of nutritional value to the foods of the Mediterranean diet (Malikowska and Grabańska-Martyńska, 2016).

#### ***Role of the Front-Of-Package (FOP) Labels in Labelling Dietary Foods for Special Medical Purposes***

Similarly to other food categories, in the case of foods for special medical purposes (FFSMP), food industry businesses are responsible for assuring compliance with the applicable general and detailed requirements (Szczyrba and Dziuba, 2023; Hartiniet al, 2023). Due to the special purpose of these foods, it is necessary to prove complete, and not only partial, compliance with the FFSMP definition (European Commission Communication, 2013, 2015, 2017). Manufacturers are required to document

compliance of a foodstuff with the general definition of food (foodstuffs) and the detailed provisions of the definition of FFSMP regarding:

-Special composition or manner of manufacturing  
-Significant suitability for including in-patient (including infants) diet plans under medical supervision

-Intended use involving sole or partial nutrition of patients and objective scientific justification that using certain foodstuffs in patients with limited, impaired, or disrupted ability to ingest, digest, absorb, metabolize, or excrete regular foods or some nutritional elements contained in such foods or metabolites, or patients with other medically justified nutritional requirements gives them incomparable benefits comparing to the regular diet (including traditional modifications of its composition) Very often, the issue of a healthy diet was limited to the so-called nutritional and health aspects without adequately integrating the concept of environmental and social sustainability. For example, the World Health Organisation recommendation (WHO, 2019) regards FOP labeling as a form of additional nutritional information. FOP labeling serves as an element of an important policy of promoting healthy nutrition by facilitating understanding of the nutritional value of foods so that consumers would choose healthier options and as a tool to prompt the food industry to improve their recipes.

The disaggregated approach results from recommendations developed before the worldwide events connected to the pandemic of the last three years. Thus, this needs to be regarded as insufficient or updated. Development of FOP labeling has been accompanied in recent years by suggestions concerning including ethical and environmental information on the labels; anyway, despite the great initiative of the European Commission within the 'Farm to Fork' strategy with the deadline in 2024, so far, no one has developed a proposition of labeling that would integrate the three pillars of sustainable development of food systems: nutritional, environmental, and social aspects of foodstuffs (Clodoveo et al., 2022). The 'Field to Fork' is a strategy aiming at meeting the challenges related to safe and sustainable manufacture and consumption of foods, decreasing the influence of food manufacturing on the environment and climate, and assuring food security and health of the citizens through access to sufficient amounts of nutritious and sustainable foods with simultaneous generation of fair economic benefits for everyone engaged in the supply chain. It is a holistic approach to shift to sustainable food systems by determining means and goals for every stage of the food chain – from manufacture, processing, and distribution to consumption (European Commission Communication, 2020).

According to the FOP labeling concept, authors named the *Mediterranean Index* (Med Index) (Clodoveo et al., 2022), such labeling should be placed on all foodstuffs.

The qualitative information on this topic presented in this paper was to present the grounds of this concept concerning labeling dietary foods of special medical purpose

this way, with particular consideration given to the group of consumers with cardiological issues.

This paper aims at the systematization of the existing knowledge on the new food labeling system, called the Mediterranean Index (*Med Index*), intended to promote the Mediterranean Diet (a healthy and sustainable diet plan) that can be included on labels of foods for special medical purposes.

### Research Methodology

The methodology adopted in this study was the analysis of existing literature related to the use of the Mediterranean Index (*Med Index*) labeling system in Europe, with a specific focus on consumers with cardiovascular diseases. The analysis incorporated a qualitative approach, which involved examining normative documents issued by the European Commission and identifying and assessing articles indexed in prominent databases such as Scopus, Web of Science (WoS) and Google Scholar. This exhaustive approach allowed the researchers to gather and evaluate diverse sources of information to gain insights into the utilization and effectiveness of the *Med Index* for individuals with cardiovascular conditions.

### Research Results

Analyzing the published works answering the research questions reveals some interesting findings. The first research question seeks to provide answers to the potential benefits of incorporating the Mediterranean Diet into food labeling practices in addressing the dietary needs of cardiovascular patients. The *pro-health* and *education pillars* are of special significance in the discussed concept. Many Europeans know the Mediterranean diet is healthy because it includes meals prepared with fresh, minimally processed, local and seasonal products, balancing high-energy dishes with nutrient-rich foods (Altomare et al., 2013; Biesbroek et al., 2023; Clodoveo et al., 2022; Katidi et al., 2023). The Mediterranean diet is rich in plant-based foods (cereals, fruit, vegetables, legumes, nuts, seeds, and olives) with olive oil as the main ingredient and a source of good fats, moderate to high consumption of fish and seafood, moderate consumption of eggs, poultry and dairy (cheeses and yogurts), low consumption of red meat and moderate consumption of wine with meals (Naureen et al., 2022; Sikalidis et al., 2021). However, contemporary studies note a significant degree of dropping this diet plan in favour of less healthy ones (Dominguez et al., 2021; Trichopoulou et al., 2014). The causes for that phenomenon may include higher supply of foods that are far from the traditional model of nutrition, higher mobility of people, and “speeding up” of everyday activities. This has always determined the common habit of eating out that shortens the time of preparation and consumption of meals, which, in turn, leads to increased consumption of fast and frequent meals – meals that are not well-balanced considering nutrition (Lăcătușu et al., 2019) and that can cause individuals to become overweight and/or obese, and that is a significant risk factor of many chronic

noncommunicable diseases, including cardiovascular diseases. The discrepancy between individuals' knowledge of the benefits of the Mediterranean diet and their eating habits that are inconsistent with the acquired knowledge can comprise a valuable tool for increasing the awareness to use the holistic labeling model, such as the *Med Index*.

In answering the second research question, which asked about the effectiveness of the Mediterranean Index (*Med Index*) in guiding consumers toward healthier Mediterranean Diet food choices, especially for cardiovascular patients, authors of the concept of *Med Indeks* (Clodoveo et al., 2022) designed this label as a holistic FOP label based on an assessment (presence or lack) of 27 well-defined, measurable criteria (nine for each of the three pillars: nutritional, environmental, and social) depending on the availability of mandatory and/or facultative certificates held by manufacturers that are listed on the back of the package (e.g., blockchain, limited certification, renewable energy certification, ethical certification, health declarations, etc.). The idea is that the value of the index resulting from the control list of the 27 assessed criteria has to be immediately visible to consumers thanks to FOP labels in different colors (with blue indicating the most beneficial index value). The aim is not to generate more work and complications for manufacturers that desire to use the new index but to provide them with an approved control list. This is why the *Med Index* serves as an aggregation and summarization tool for a range of information, which is frequently incomplete and not readily accessible to consumers. Its purpose is to facilitate the informed, prompt, and effective selection of food items that align with the distinct requirements of various consumers. These consumers may include individuals who are solely interested in the nutritional aspects of food or those who seek information about all dimensions of sustainable development.

The advantages of the Mediterranean diet include that it involves a sustainable model of production and consumption from the environmental and social point of view and that it is possible to adjust it to different *geographical, socio-economical, and cultural* contexts (Fresán et al., 2018; Ndinojuo, 2020; Sikalidis et al., 2021). The health, longevity, and welfare of individuals, as well as natural resources, socioeconomic conditions, cultural development, and social stability, depend on food production (Beyene et al., 2023; Clodoveo et al., 2022; Rattan and Kaur, 2021). Ruini et al. (2015) reported a relationship between the efficiency of the Mediterranean diet and the development of the 'environmental pyramid' model. This analysis was developed based on the assessment of the influence of foods on the natural environment, and its elements were a part of the Mediterranean diet food pyramid. Values of relevant ecological footprint (i.e., ecologically productive area necessary to generate resources used for manufacturing) had been associated with foods. Similar results were obtained with the assessment based on the carbon footprint of foods (amount of greenhouse gases emitted to the atmosphere). The obtained results, starting from the study on the international scientific literature, comprise an inverted pyramid, with foods with the most significant impact on the

environment placed at the top of the pyramid and the ones with the lowest impact – at its bottom (Ingrassia et al., 2023; Mattas et al., 2023; Serra-Majem et al., 2020). Placing the two pyramids (the so-called Mediterranean and environmental pyramid) next to each other enables to favor the of sustainable and healthy diet models to encourage consumers to develop healthy nutritional habits and respect the planet, and lower the impact of the selection of foodstuffs negatively influencing the environment and climate changes. It is possible to notice that consuming foods recommended in high amounts (fruit and vegetables) in the Mediterranean diet generally has the smallest environmental influence. In contrast, foods recommended in the lowest amounts (meat) influence the environment most (Scarborough et al., 2023; Takacs et al., 2022).

The third research question was to answer the question of the effectiveness of strategic management in implementing, promoting, and adapting food labeling activities to improve consumer diets and address changing medical guidelines. Different scholars have noted that the assessment of the effectiveness of strategic management in implementing, promoting, and adapting food labeling initiatives to improve consumer diets and answer changing medical standards can be conducted by examining key performance indicators (Melesse et al., 2020; Reyes et al., 2021). The review should incorporate various factors, including the effective integration of nutritional information into labeling, the capacity to effectively communicate health advantages to consumers, and the flexibility of labeling procedures in adapting to evolving consumer preferences and emerging medical recommendations. Additionally, the influence of strategic management on the consumer experience, including the levels of awareness, understanding, and utilization of food labels to facilitate informed dietary decisions, would play a crucial role in assessing its effectiveness (Corsini et al., 2023; Martinho, 2020). The utilization of quantitative indicators, such as changes in consumer behavior and compliance with dietary recommendations, in conjunction with qualitative evaluations of consumer perceptions and satisfaction, can paint a complete picture of the impact of strategic management on enhancing food labeling initiatives and effectively shaping consumer dietary patterns in accordance with evolving medical guidelines (Priya and Alur, 2023; Zafar et al., 2022).

## Discussion

*Med Index* is based on scientific evidence indicating that the Mediterranean diet is a sustainable and efficient nutrition model, as mentioned previously. The *Med Index* aims to lead the consumer towards choosing healthy foods that increase longevity and quality of life by cutting the expenditure on health and following the Mediterranean diet (El Bilali et al., 2020; Omar and Thorsøe, 2023). The *Med Index*, as explained by the authors (Clodoveo et al., 2022), is a fresh way of labeling products. It is made to tackle the current consumption trend. This system is crafted to fit nicely with the European Commission's "farm to fork" strategy and bring together all the elements of sustainable development. The *Med Index* (Figure 1) is a

fast and immediate system of recognizing healthy foodstuffs and products, persuading manufacturers to make better, more sustainable products. The Mediterranean diet is a lifestyle model rooted in tradition, and it evolves dynamically, adjusting its rules to global changes. As a sustainable nutrition model, the Mediterranean diet has to integrate into inductive models that lower the environmental impact by assuming an approach based on a circular economy. Shifting to the circular economy model not only creates new jobs but also discovers benefits within the environmentally sustainable development resulting from more conscious and responsible utilization of primary resources. However, shifting from the linear model to the circular one requires specific norms and certification of this process (Niero and Rivera, 2018; Ren et al., 2023). The first standard regulating the circular economy model to which businesses can refer is the BS 8001, established in 2017 in Great Britain thanks to the British Standards Institution (BSI). The BS 8001 standard helps businesses to integrate the rule of the three Rs (reduction, reuse, recycle) of the circular economy into their business model (Kafel and Nowicki, 2022; Voukkali et al., 2023).

The standard can be regarded as a true "guide" as it offers guidance and recommendations on the best practices for transitioning to the circular model. The BS 8001 standard has the potential to be applied universally across organizations worldwide, irrespective of their geographical location, scale, industry, or classification. Besides that, this standard includes practical ways of assuring that the goals of small businesses can be reached quickly. At the same time, it supports organizations in reviewing the path of managing their resources in a way that allows them to increase their benefits while maintaining economically, environmentally, and socially sustainable development. This standard allows food manufacturers to conclude transactions with independent third parties while shifting from a linear to a circular economic model. A certifying body, through analyses, trainings, and assessments, can also lead an organization toward reaching its goals concerning closed-circuit. Some food manufacturers use the 100% CERTIFIED GREEN ENERGY marking, guaranteeing that manufacturing foodstuffs involve only Certified Green Energy from plants utilizing renewable energy sources (Albert-Seifried et al., 2022; Kühne et al., 2022). Incorporating the aforesaid standards and certificates into the *Med Index* food labeling system contributes to including pro-health characteristics. This inclusion expands the system's measurable and validated criteria to encompass the environmental and social pillars.

We saw earlier that the place of strategic management in influencing dietary choices is influenced by key indicators. These indicators include measuring consumer awareness and understanding, including serving sizes, calorie content, and other key dietary indicators (Ikonen et al., 2020; Priya and Alur, 2023). The study focuses on adopting healthier food choices, which involves monitoring shifts in consumer buying patterns, particularly in the preference for foods with improved nutritional profiles following the implementation of strategic food labeling. Evaluating compliance with dietary guidelines involves assessing the alignment between food



labels and established dietary rules and standards and examining the extent to which consumers' dietary choices comply with suggested nutritional criteria (Lee et al., 2023; Tapsell et al., 2016). Additional crucial factors include monitoring consumer satisfaction through feedback and assessing individuals' perspectives regarding the efficacy of food labeling in facilitating well-informed dietary choices.

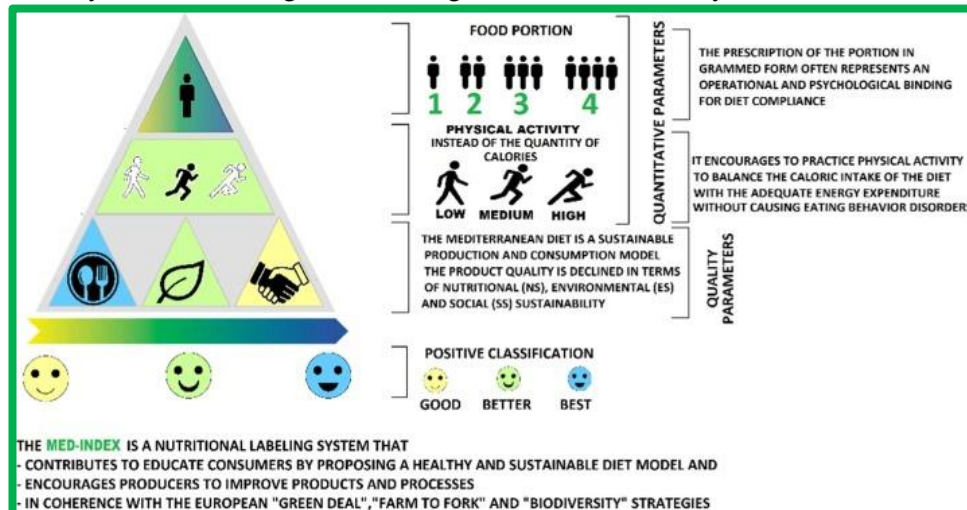


Figure 1: Med Index

Source: Clodoveo et al., 2022

Market penetration indicator refers to the extent to which different food manufacturers and merchants adopt food labeling. Adaptability evaluates food labeling processes' ability to effectively adjust and conform to updated or modified requirements (Marion et al., 2023; Priya and Alur, 2023; Zafar et al., 2022). Several factors, including public health outcomes, stakeholder participation, market competitiveness, cost-effectiveness, and the accessibility of information, influence the ease with which consumers can access and interpret food labeling information. These variables factor in considerations such as font size, language clarity, and the positioning of labeling on packaging. Monitoring sustained changes in consumer behavior over an extended period is crucial to observing the consistent adoption of healthier dietary choices due to product labeling (Miller and Cassady, 2015; Zafar et al., 2022).

## Conclusion

During the last decades, individuals shifted their eating habits towards unhealthy choices. Consumption of highly energetic foods not containing enough nutrients increased, resulting in increased body weight and worse laboratory results across the entire generation's lifetime (Almoraie et al., 2021; Sogari et al., 2018). However, consumers increasingly demand transparency regarding food labeling and call for the right to make conscious choices during shopping. Until 2024, the European

Commission will evaluate new ways of creating a sustainable labeling framework that includes nutritional, climatic, environmental, and social aspects of foodstuffs in synergy with other relevant initiatives. The newly proposed *Mediterranean Index (Med Index)* aims to promote and follow a healthy and sustainable diet plan, i.e., the Mediterranean diet, which is well recognized in medical literature and successfully utilized in correcting eating habits in consumers suffering from cardiological conditions. The effectiveness of this system will enable to reach the dream pro-health goal, assuming that foods can be manufactured in any part of the world under the condition of maintaining the same nutritional and pro-health properties of the Mediterranean diet with the effort towards stimulating physical activity adjusted to the energetic value of meals (Vetrani et al., 2018). At the same time, manufacturers should be persuaded to provide healthier and more sustainable products (Clodoveo et al., 2022; Javaid et al., 2021; Van Bussel et al., 2022). The *Med Index* is designed as a holistic label located at the front of the package (FOP) that food manufacturers can use because it is based on measurable criteria accepted by most involved parties and usually used voluntarily.

The *Med Index* involves three pillars of sustainable development, including nutritional, environmental, and social aspects, in assessing 27 criteria (9 for each pillar). The presence or lack of these criteria is visualized to consumers through different colors of FOP labels (with blue representing the best result). By contrast to other models, the *Med Index* does not employ an algorithm but simple YES or NO answers or a mechanism of detecting the presence of the 27 determined criteria, which is verified thanks to the access to obligatory and facultative certificates held by the manufacturers. A singular graphical symbol requires only a few seconds to simultaneously analyze different properties of the product and/or its production process. It is a useful tool to compare different foodstuffs of the same category and a useful system for breaking the information asymmetry characteristic of many foodstuffs markets. Focusing on the energetic value of foods for special medical purposes and the particularities of their manufacturing in the context of sustainable development will broaden consumers' knowledge of the influence of certain foodstuffs on the health of individuals suffering from cardiovascular diseases. It will provide information on the influence of the food manufacturing process on the environment of the region where the foodstuffs were produced.

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## ORGANIZACJA PROZDROWOTNEGO SYSTEMU ETYKIETOWANIA ŻYWNOŚCI

**Streszczenie:** Środki spożywcze specjalnego przeznaczenia żywieniowego ze względu na swoje przeznaczenie obejmują między innymi dietetyczne środki spożywcze specjalnego przeznaczenia medycznego. Osoby cierpiące na choroby układu krążenia niewątpliwie są podstawowymi konsumentami takiego rodzaju żywności. Odpowiednio dobrane środki żywieniowe zwłaszcza dieta śródziemnomorska nie tylko zmniejszają ryzyko choroby niedokrwiennej serca (co potwierdzono w badaniu Seven Countries Study), ale także przyczyniają się do wydłużenia życia starszych mieszkańców krajów śródziemnomorskich. W niniejszej pracy systematyzowano wiedzę na temat nowego systemu znakowania produktów żywnościowych o nazwie Indeks Śródziemnomorski (Med Index) mającego na celu promowanie przestrzegania diety śródziemnomorskiej (zdrowy i zrównoważony sposób odżywiania), który również może być uwzględniany w znakowaniu środków spożywczych specjalnego przeznaczenia medycznego. W pracy przeanalizowane dostępne piśmiennictwo na temat wykorzystania systemu oznakowania znanego w Europie jak Indeks

Śródziemnomorski ze szczegółowym uwzględnieniem konsumentów z chorobami układu krążenia. Stosowana w pracy analiza jakościowa dotyczyła dokumentów normatywnych Komisji Europejskiej, artykułów indeksowanych w bazach danych Scopus, WoS, Google Scholar. Zwrócenie uwagi na wartości energetyczne produktów specjalnego przeznaczenia medycznego oraz osobliwości procesu ich wytwarzania w kontekście koncepcji zrównoważonego rozwoju niewątpliwie przyczyni się do rozszerzenia wiedzy konsumenta na temat prozdrowotnych informacji o wpływie produktu na stan zdrowia osoby z problemami kardiologicznymi oraz dostarczy korzystne informacji na temat wpływu procesu produkcyjnego wytwarzania żywności na stan środowiska regionu gdzie powstał ten środek spożywczy.

**Słowa kluczowe:** zarządzanie znakowaniem żywności, żywność specjalnego przeznaczenia medycznego, Indeks Śródziemnomorski, schorzenia układu krążenia