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MODERN APPROACHES TO OBESITY TREATMENT WITH CONSIDERATION OF PHARMACOTHERAPY AND DIET THERAPY

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ABSTRACT

Obesity represents one of the most significant public health challenges worldwide, serving as a key risk factor for numerous chronic diseases, including type 2 diabetes and cardiovascular diseases. The aim of this article was to present modern approaches to obesity management, with particular emphasis on the role of health behaviors, diet therapy, dietary catering services, and semaglutide-based pharmacotherapy.

This paper reviews issues related to the concept of health and health behaviors, principles of proper nutrition, and selected dietary models used in obesity treatment. Special attention was paid to dietary catering as a modern tool supporting the implementation of nutritional recommendations, as well as pharmacotherapy utilizing GLP-1 receptor agonists.

The conducted analysis indicates that effective obesity treatment requires a comprehensive and interdisciplinary approach, combining lifestyle modification, appropriately tailored diet therapy, and pharmacological support. Modern solutions, such as personalized nutrition and the use of semaglutide-based medications, can significantly increase treatment efficacy and promote long-term weight reduction.

KEYWORDS

Obesity, Diet Therapy, Pharmacotherapy, Semaglutide, Dietary Catering (Meal Kit Delivery), Health Behaviors

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1. Introduction

Obesity is a complex, multifactorial disease that has reached the proportions of a global epidemic in recent decades, posing a significant challenge to modern healthcare systems.

Its prevalence is associated with an increased risk of developing numerous chronic conditions, including metabolic disorders, cardiovascular diseases, and a diminished quality of life.

The rising incidence of obesity is closely linked to lifestyle changes, characterized by poor dietary habits, sedentary behavior (low physical activity), and the increasing availability of ultra-processed foods. Consequently, contemporary approaches to obesity management extend beyond traditional dietary recommendations, incorporating a broad behavioral, environmental, and medical context.

Particular significance is attributed to health behaviors, which play a crucial role in both the development and prevention of obesity. Simultaneously, the dynamic advancement of nutritional sciences and medicine has led to the emergence of modern solutions supporting the treatment process. These include dietary catering (meal kit services), which facilitates adherence to nutritional guidelines, and pharmacotherapy that supports body weight reduction.

In recent years, semaglutide—a GLP-1 receptor agonist—has garnered significant interest due to its high efficacy in both glycemic control and weight loss. The aim of this article is to present modern approaches to obesity management, considering the roles of diet therapy and pharmacotherapy, while emphasizing the importance of a comprehensive approach to the treatment of this disease.

2. Materials and Methods

This paper is a literature review based on an analysis of available scientific literature regarding obesity, health behaviors, nutrition, diet therapy, and pharmacotherapy. The analysis incorporated both national and international publications, including review articles, scientific studies, and reports from recognized public health organizations.

Particular attention was paid to studies concerning the role of nutritional interventions, lifestyle modifications, and the use of GLP-1 receptor agonists, specifically semaglutide, in the treatment of obesity and metabolic disorders.

Furthermore, legal acts and industry sources related to the functioning of dietary catering as an element of modern diet therapy were analyzed. The selection of sources was based on their relevance, scientific credibility, and alignment with the scope of this study.

The collected material underwent qualitative analysis, which enabled the organization and synthesis of current knowledge regarding contemporary methods of obesity treatment.

3. The Concept of Health and Health Behaviors

3.1. Definition of Health and Theoretical Approaches

Health constitutes a fundamental value that conditions the proper functioning of the human body and the individual's ability to engage in daily activities. Despite numerous attempts to define it, creating a single universal definition remains a challenge due to the multidimensional nature of the concept and its subjective perception. Literature emphasizes, however, that health refers not only to the physical aspect but also encompasses the psychological and social spheres of an individual's functioning. According to the World Health Organization's definition, health is "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (World Health Organization, 2025).

The definition of health presented in scientific literature remains multidimensional and dependent on the adopted research perspective. According to the World Health Organization's approach, also cited by Statistics Poland (GUS), health denotes "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (Statistics Poland, 2025; World Health Organization, 2025).

A similar approach is presented by Barbara Woynarowska, who defines health as a state of complete physical, mental, and social well-being that goes beyond the mere non-existence of disease. The author simultaneously points to the diversity of approaches to this concept, highlighting its dynamic and functional character. She notes that health can be understood, among other things, as an individual's capacity to fulfill social roles and perform daily tasks, a potential enabling personal development and life activity, and a state of balance and harmony between the physical, mental, and social spheres. An essential aspect is also the perception of health as a quality of life, encompassing a subjective sense of satisfaction, well-being, and the possibility of self-realization (Woynarowska, 2017).

3.2. The Concept and Significance of Health Behaviors

The concept of health behaviors was first addressed by Kasl (Koss), who pioneered attempts at their definition and systematization (Nowicki et al., 2018). Currently, this issue is analyzed in a broad context, covering an individual's lifestyle, health promotion, quality of life, and health education.

Health behaviors are defined as any actions taken by an individual that have a significant impact on their health status and well-being, both directly and indirectly (Palacz, 2014). Literature emphasizes that these include both conscious decisions and established habits, as well as daily practices related to human functioning. According to Puchalski, health behaviors constitute a distinct category of actions which—based on current scientific knowledge, beliefs, and social norms—are considered significant from a health perspective (Nowicki et al., 2018).

This approach indicates their socio-cultural determinants and variability depending on the context. Conversely, Mazurkiewicz defines health behaviors as the totality of attitudes, habits, values, and actions undertaken by individuals and social groups in the field of health. He emphasizes that a person's health status is reflected in their behaviors, their way of perceiving and assessing health, and their reactions toward their own health and the health of others (Heszen & Sęk, 2020).

3.3. Psychological and Behavioral Perspectives on Health Behaviors

In the relevant literature, health behaviors are viewed as a complex category encompassing cognitive, emotional, and behavioral components. D.S. Gochman pointed out that they constitute a specific set of an individual's attributes, including beliefs, expectations, motives for action, and values that determine the undertaking of health-related activities.

This perspective also assigns significant importance to personality traits, behavior patterns shaped from the earliest stages of life, and established habits that influence the maintenance, improvement, or recovery of health, as well as the overall quality of life (Nowicki et al., 2018).

On the other hand, Helena Sęk defines health behaviors as reactive, habitual, or purposeful forms of human activity that—based on both objective knowledge and an individual's subjective beliefs—remain significantly related to health status (Heszen & Sęk, 2020; Arendt et al., 2014). This approach emphasizes the importance of both conscious actions and automatic behavioral patterns in shaping an individual's health.

3.4. Contemporary Holistic Approach to Health

In the modern view, health is perceived as a dynamic adaptive process, depending on the interaction of biological, psychological, and environmental factors. International research indicates that an individual's lifestyle, including diet, physical activity levels, and health behaviors, plays a crucial role in maintaining health and preventing chronic diseases (World Health Organization, 2023; McCartney et al., 2019).

It is further emphasized that the contemporary approach to health goes beyond the biomedical model, incorporating a holistic perspective in which significant importance is attributed to quality of life, psychological well-being, and an individual's social functioning (Huber et al., 2016).

4. Types of Health Behaviors

4.1. Health Behaviors Related to Physical, Mental and Social Health

Numerous classifications of health behaviors are distinguished in the literature, allowing for their systematization and a better understanding of their impact on individual health. One of the most widely recognized typologies was proposed by Barbara Wojnarowska, who divided health behaviors into four primary groups.

The first group consists of behaviors directly related to physical health, encompassing actions aimed at maintaining the proper functioning of the body. This category includes, among others, physical activity, rational nutrition, care for body and environmental hygiene, adequate sleep, and a broadly defined healthy lifestyle.

The second group comprises behaviors relating to mental and social health, which include utilizing social support, providing support to others, stress management skills, and life problem-solving abilities.

The third category consists of preventive behaviors focused on health prophylaxis. These include regular check-ups, self-examination, health monitoring, and taking actions aimed at the early detection and prevention of disease progression. Within this group, avoiding potentially health-threatening situations, including practicing safe behaviors in daily life and sexual health, is also of significant importance.

The final group consists of behaviors based on avoiding risk factors, such as tobacco smoking, alcohol abuse, the use of psychoactive substances, improper use of medications, or engaging in risky sexual behaviors. Eliminating such actions plays a key role in the prevention of many lifestyle diseases (Wojnarowska, 2017; Wagner et al., 2015).

4.2. Psychological Perspectives on Health Behaviors in the Context of Health Maintenance and Improvement

In the literature of health psychology, classifications of health behaviors are multifaceted and incorporate various criteria for their categorization. Irena Heszen and Helena Sęk distinguished several basic types of health behaviors, relating them to their value for health, the individual's level of awareness, and the nature of the actions taken. In their view, health behaviors can be beneficial or detrimental to health and can take the form of either habitual or purposeful actions. An essential criterion for division is also the level of consciousness and intentionality of the activities, the individual's health status, the fulfillment of social roles, and the specific life domain to which these behaviors pertain.

This approach is further developed in the concept proposed by Irena Heszen-Niejodek, who defines health behaviors as any form of human activity directed toward maintaining or improving health. The author distinguishes several primary categories of these behaviors. The first includes actions serving to maintain well-being and current health status. The next group consists of preventive behaviors, including participation in screening tests, health self-monitoring, and actions preventing the development of diseases. Significant

importance is also attributed to behaviors aimed at minimizing the risk of health loss, as well as activity undertaken by individuals already affected by illness. In this context, actions aimed at diagnosing the health state, implementing appropriate remedial measures, and undergoing treatment are distinguished. These behaviors encompass both the strive for health improvement and active participation in the therapeutic process (Heszen & Sęk, 2020; Sygit-Kowalkowska, 2014).

4.3. Health Behaviors in the Daily Practices of the Individual

Another classification of health behaviors was proposed by Zygmunt Juczyński, who identified several basic categories relating to an individual's daily practices. In his view, health practices constitute a significant group, encompassing actions aimed at maintaining good physical condition, such as weight control, following a balanced diet and engaging in regular physical activity. Juczyński also highlights the importance of avoiding environmental hazards, such as staying in polluted environments, and limiting contact with harmful substances. This latter group includes, among others, avoiding excessive alcohol consumption, tobacco smoking, the use of psychoactive substances, and the misuse of medications. These actions play a vital role in health prophylaxis and the maintenance of a high quality of life (Juczyński, 2009; Marmola & Wańczyk-Welc, 2017).

4.4. The Significance of Health Behaviors in the Context of Contemporary Research

In international studies, health behaviors are recognized as one of the most important modifiable determinants of population health. Particular importance is attributed to factors such as dietary habits, physical activity, the avoidance of stimulants, and the undertaking of preventive measures (World Health Organization, 2023).

Numerous analyses indicate that poor health behaviors constitute a significant risk factor for the development of obesity and metabolic diseases, including type 2 diabetes and cardiovascular diseases (GBD 2019 Risk Factors Collaborators, 2020).

Simultaneously, it is emphasized that changing health behaviors is a complex process, dependent on individual, social and environmental factors. This justifies the necessity of employing comprehensive health promotion strategies (Kwasnicka et al., 2016).

5. Principles of Healthy Nutrition

5.1. The Importance of Healthy Nutrition Principles in Health Prophylaxis

The principles of healthy nutrition constitute a fundamental element in the prevention of chronic diseases and the maintenance of a healthy body weight. Literature emphasizes that a rational diet should be appropriately balanced in both quantitative and qualitative terms and tailored to the individual needs of the body (Jarosz, 2017; Nowak, 2017).

5.2. Basic Principles of Rational Nutrition: The Role of Nutrients and Dietary Structure

Among the most important principles of healthy eating is the regular consumption of meals, typically 4–5 times a day, with appropriate intervals between them. Of significant importance is also the limitation of simple sugar intake and ultra-processed products, as well as the replacement of animal fats with plant-based fats rich in unsaturated fatty acids (Jarosz, 2017; Nowak, 2017; World Health Organization, 2020).

In the context of health prophylaxis, it is recommended to increase the consumption of vegetables and fruits, which should be a key component of the daily diet, primarily due to their high content of dietary fiber, vitamins, and minerals. Simultaneously, it is advised to choose whole-grain products over refined ones and to limit red meat consumption in favor of lean protein sources, such as poultry, fish, or legumes (Willett et al., 2019; Afshin et al., 2019; World Health Organization, 2020).

5.3. Lifestyle and Dietary Behaviors

An essential element of a healthy lifestyle is also adequate hydration, avoiding snacking between meals, and engaging in regular physical activity. Nowadays, the significance of psychological factors, such as stress management skills, which can influence an individual's dietary behaviors, is also emphasized (Jarosz, 2017; Nowak, 2017).

From an international perspective, it is indicated that proper nutrition is one of the most important modifiable factors affecting population health. Improper dietary habits are significantly associated with an increased risk of developing obesity and metabolic diseases (World Health Organization, 2020; Afshin et al., 2019). Conversely, diets rich in plant-based products, fiber, and unsaturated fatty acids demonstrate protective effects regarding metabolic health and body weight control (Willett et al., 2019).

6. The Concept of Diet and Examples of Dietary Models

6.1. Definition and Significance of Diet in Health Sciences

The concept of a diet is a key issue in health and nutritional sciences. In a contemporary view, a diet is understood not only as a way of eating but also as an essential lifestyle element influencing an individual's health status and the risk of developing chronic diseases. According to the definition by the World Health Organization and the Food and Agriculture Organization, a healthy diet plays a fundamental role in promoting health, proper growth, and development, while supporting an active lifestyle. Simultaneously, it contributes to preventing both nutritional deficiencies and excesses, and reduces the risk of infectious and non-communicable diseases, including diet-related conditions. The growing importance of the links between nutrition, food production systems, and the natural environment is also emphasized (World Health Organization & Food and Agriculture Organization, 2024).

In national literature, a diet is defined as a nutritional approach based on the principles of dietetics, involving the appropriate selection of products in terms of quantity and quality, as well as their diversity and adaptation to individual needs (Polski Instytut Dietetyki, 2025). Thus, a diet is a fundamental tool in both the prevention and treatment of many conditions, including obesity.

6.2. International Perspective on the Significance of Diet

Internationally, it is emphasized that dietary quality is one of the most important modifiable factors affecting population health. Poor nutritional patterns are significantly associated with an increased risk of cardiovascular disease, type 2 diabetes, and obesity. Consequently, there is a growing emphasis on promoting nutritional models based on plant-based products, whole grains, and the limitation of ultra-processed foods (Afshin et al., 2019).

The term "diet" refers to a human nutritional approach that should be adapted to health status, energy requirements, and lifestyle. Scientifically, a diet is not only an element of daily functioning but also a vital tool for the prophylaxis and treatment of numerous diseases, including obesity (World Health Organization & Food and Agriculture Organization, 2024).

6.3. Classification of Diets in Dietetics

Numerous dietary classifications exist in dietetics, considering various criteria such as qualitative and quantitative composition, the objective of the diet, and the individual's health status. A classic typology is the division developed by the Dietetics Committee of the Polish Academy of Sciences, which includes the standard (basic) diet, easily digestible (light) diet, high-protein, low-protein, low-fat, low-carbohydrate, and low-calorie diets (Medicine Tribune, 2022).

6.4. Characteristics of Selected Therapeutic and Modified Diets

The basic diet is intended for healthy individuals and is based on rational nutrition principles, ensuring an adequate supply of all nutrients. In contrast, the easily digestible diet is used for individuals with gastrointestinal diseases and involves limiting hard-to-digest products and culinary techniques that strain the digestive tract. In clinical practice, diets modified in terms of macronutrient content, such as high-protein and low-protein diets, are of significant importance depending on medical indications (Ciborowska & Ciborowski, 2021).

Energy-modified diets constitute another important group, including the low-calorie diet commonly used in the treatment of overweight and obesity. Furthermore, diets with reduced fat or carbohydrate content are applied based on clinical indications, such as cardiovascular diseases or carbohydrate metabolism disorders (Wnęk, 2021; Ostrowska, 2021).

6.5. Contemporary Nutritional Models and Specialized Diets

Modern dietetics also incorporates elimination and specialized diets, such as the gluten-free diet used for individuals with celiac disease or gluten intolerance. Simultaneously, nutritional models with documented health-promoting effects, including the Mediterranean diet and the DASH diet, are gaining significance and are widely recommended in the prevention of cardiovascular and metabolic diseases (Chudzińska et al., 2017; Cichocka, 2018).

International perspectives highlight that the Mediterranean diet, rich in plant products, unsaturated fatty acids, and antioxidants, demonstrates a particularly beneficial effect on metabolic health and the reduction of chronic disease risk (Willett et al., 2019). Similarly, the DASH diet is applied in the treatment and prevention of hypertension (Cichocka, 2018).

6.6. Limitations and Risks Associated with Dieting

It should be noted, however, that not all popular diets have confirmed efficacy and safety. Examples include very-low-calorie diets (VLCDs), which, despite short-term effectiveness in weight reduction, may lead to nutritional deficiencies and negative health consequences (Kołłajtis-Dołowy et al., 2019). The choice of an appropriate diet should depend on individual needs, health status, and the objective of its use. The contemporary approach to dietetics emphasizes the necessity of personalizing nutritional recommendations based on current scientific knowledge (Afshin et al., 2019).

7. Dietary Catering as an Element of Modern Diet Therapy

7.1. Determinants of the Development of Dietary Catering

The modern pace of life, progressive urbanization, and the increasing availability of ultra-processed foods contribute to shifts in nutritional patterns worldwide. Simultaneously, an increase in health awareness is observed among consumers, who increasingly seek solutions that enable a healthy lifestyle while reducing the time required for meal preparation. Consequently, there is growing interest in comprehensive nutritional services, including dietary catering (Szymanek, 2017).

7.2. Definition and Characteristics of Dietary Catering

Dietary catering represents a modern form of nutritional organization, involving the preparation of balanced meals consistent with specific dietary assumptions and their subsequent direct delivery to the recipient. These services account for individual client needs, such as health status, energy requirements, dietary preferences, or health goals, including weight reduction or the improvement of metabolic parameters. Literature emphasizes that such solutions align with the broader trend of personalized nutrition and "nutrition convenience" (Afshin et al., 2019).

7.3. Functions and Significance in Shaping Nutritional Behaviors

Functionally, dietary catering plays a vital role in shaping nutritional behaviors, particularly among professionally active individuals who lack sufficient time for independent meal planning and preparation. Research indicates that utilizing such services can promote improved dietary quality, increased meal regularity, and better alignment of energy and nutrient intake with the body's needs (Afshin et al., 2019).

Dietary catering is a dynamically growing segment of the food service market, responding to increasing consumer demand for convenient, balanced, and personalized nutritional solutions. Literature highlights that these services are particularly popular among individuals striving for weight reduction, as well as those unable to prepare meals independently due to time constraints (Grzezińska, 2021).

7.4. Application in Weight Reduction and Diet Therapy

The essence of dietary catering is providing a set of 3 to 5 appropriately balanced meals per day, developed based on the consumer's individual energy and nutritional requirements.

As W. Grzezińska indicates, the key premise of this nutritional model is tailoring the caloric content and nutritional value of the diet to the user's preferences and health goals (Grzezińska, 2021).

The primary recipients of dietary catering services are individuals with overweight or obesity, as well as those requiring specialized diets. International studies suggest that using prepared, calorie-controlled meals can facilitate more effective weight reduction and improved energy intake control. Simultaneously, the importance of dietary support in maintaining therapeutic effects is emphasized (Pyrzyńska, 2018; Woźniak, 2017; Hall et al., 2016).

From a public health perspective, dietary catering can serve as a tool supporting the development of proper nutritional habits. Regular meal consumption and balanced composition contribute to improved metabolic parameters. It is also indicated that structured nutritional programs can enhance adherence to dietary recommendations (Johnston et al., 2014).

7.5. Limitations and Challenges Associated with Dietary Catering

Despite numerous advantages, dietary catering also has limitations. High costs and a lack of full control over the meal preparation process can pose significant barriers for users. Similar conclusions are presented in international research, which highlights the necessity for further optimization of service quality and economic accessibility (Bleich et al., 2017).

8. Pharmacotherapy of Obesity: A Case Study of Ozempic

8.1. Drug Characteristics and Therapeutic Application

Ozempic is an antidiabetic medication used in the treatment of adults with type 2 diabetes in whom adequate glycemic control has not been achieved using standard treatment methods. The preparation is utilized both as an adjunct to therapy with other hypoglycemic drugs and in cases where the use of metformin is contraindicated. A crucial element of Ozempic therapy is its integration with a balanced diet and regular physical activity (European Medicines Agency, 2017).

8.2. Mechanism of Action of Semaglutide (GLP-1)

The active substance of the drug is semaglutide—an analog of human glucagon-like peptide-1 (GLP-1), an incretin hormone produced by the cells of the small intestine in response to increased blood glucose levels. GLP-1 plays a key role in regulating carbohydrate metabolism by stimulating insulin secretion by the pancreas and inhibiting glucagon secretion.

This mechanism leads to a reduction in blood glucose levels, both fasting and postprandial (Andersen et al., 2021).

Additionally, GLP-1 affects the central nervous system by regulating the perception of hunger and satiety. Consequently, semaglutide demonstrates an appetite-suppressing effect and increases the feeling of fullness, which translates into a reduction in caloric intake.

As a result, not only is glycemic control improved, but significant body weight reduction is also observed in patients using this medication (Bergmann et al., 2023).

The primary effects of Ozempic include:

- reduction of blood glucose levels,
- glucose-dependent increase in insulin secretion,
- inhibition of glucagon secretion,
- slowing of gastric emptying,
- increased satiety and reduction of appetite.

In recent years, semaglutide has also gained importance in the treatment of overweight and obesity, even in individuals without comorbid diabetes. Clinical studies indicate that its use can lead to significant weight reduction and improvement in metabolic parameters, including a decreased risk of cardiovascular diseases (Lincoff et al., 2023).

8.3. Route of Administration and Dosage Schedule

The characterization of Ozempic is further defined by its route of administration and dosage regimen. The preparation is available as a solution for subcutaneous injection, pre-filled in a specialized pen injector. Its use is possible only upon a physician's recommendation.

The drug is administered into the subcutaneous tissue, most commonly in the abdomen, thigh, or upper arm (European Medicines Agency, 2017).

The standard dosage schedule involves starting therapy at a dose of 0.25 mg administered once weekly. After four weeks, this dose is typically increased to 0.5 mg once weekly. In clinically justified cases, a further dose increase to 1 mg per week is possible, depending on the individual response of the patient's body and the efficacy of the treatment (European Medicines Agency, 2017).

8.4. Adverse Effects

It must be emphasized, however, that despite its documented therapeutic efficacy, the use of Ozempic may be associated with the occurrence of adverse effects of varying severity. Most commonly observed are gastrointestinal symptoms, such as nausea, vomiting, abdominal pain, bloating, constipation, or delayed gastric emptying. In some cases, taste disorders, gastroesophageal reflux, and increased pancreatic enzyme activity may also occur. Rarer

but clinically significant adverse effects include hypoglycemia, chronic fatigue, tachycardia, cholelithiasis, and complications related to diabetic retinopathy leading to retinal changes, as well as acute pancreatitis. In exceptional situations, hypersensitivity reactions, including anaphylactic shock, may occur, requiring immediate medical intervention.

Therefore, semaglutide therapy should be conducted under constant medical supervision and tailored individually to the patient's health status (European Medicines Agency, 2017; Andersen et al., 2021; Bergmann et al., 2023; Lincoff et al., 2023).

8.5. Contraindications

An essential component of the Ozempic profile is the contraindications to its use, which must be considered before initiating therapy. The most significant include type 1 diabetes, ketoacidosis, and hypersensitivity to the active substance or any excipient of the preparation. Furthermore, the drug should not be used in patients with severe heart failure (NYHA Class IV), end-stage renal disease or in women during pregnancy and breastfeeding. Age restrictions also apply—the preparation is not recommended for individuals under 18 or over 75 years of age (Andersen et al., 2021; Bergmann et al., 2023; Lincoff et al., 2023).

9. Modern Approaches to Obesity Treatment: A Comprehensive View

9.1. Obesity as a Chronic Disease: Lifestyle Modification as the Foundation of Therapy

The contemporary approach to obesity management is based on its recognition as a chronic disease with a complex, multifactorial etiology. It encompasses genetic, environmental, and behavioral factors. Consequently, effective treatment requires a long-term and comprehensive therapeutic approach rather than merely short-term dietary interventions (Blüher, 2019).

The fundamental element of obesity treatment remains lifestyle modification, which includes introducing an appropriately balanced diet, increasing physical activity levels, and changing poor dietary habits. Health education and the cultivation of lasting pro-health behaviors are also of crucial importance.

Psychological support serves as an essential adjunct, aiding in the identification of causes for excessive food intake, such as stress or emotional eating. Behavioral therapy enables the consolidation of positive changes and increases treatment efficacy in the long term (Yumuk et al., 2015).

9.2. Pharmacotherapy in Obesity Management

In cases where lifestyle interventions prove insufficient, pharmacotherapy is gaining increasing significance. Modern drugs used in obesity treatment, including GLP-1 receptor agonists, demonstrate high efficacy in weight reduction and the improvement of metabolic parameters.

Semaglutide, the active substance in preparations such as Ozempic, influences appetite regulation, increases satiety, and reduces caloric intake. Clinical studies show that its use leads to significant weight reduction and improved glycemic control, making it one of the most important achievements in modern obesity pharmacotherapy (Wilding et al., 2021; Bergmann et al., 2023).

9.3. Surgical (Bariatric) Treatment

For morbid obesity and cases where other therapeutic methods have failed, surgical treatment is utilized. Bariatric procedures, such as sleeve gastrectomy or gastric bypass, are recognized as the most effective method for long-term weight reduction.

In addition to substantial weight loss, surgical treatment contributes to the improvement or even remission of comorbidities, such as type 2 diabetes, hypertension, and lipid disorders (Rubino et al., 2022).

9.4. The Importance of an Interdisciplinary Approach and Modern Technologies

The modern approach to obesity treatment is based on an interdisciplinary model, involving collaboration among specialists from various fields, such as physicians, dietitians, psychologists, and physiotherapists. Such a comprehensive approach enables not only more effective weight reduction but also improves the patient's overall health status and limits the risk of disease relapse. Personalization of therapy, considering both metabolic and psycho-behavioral aspects, currently constitutes one of the key elements of successful obesity management.

Digital technologies, such as mobile applications, telemedicine platforms, and systems for monitoring physical activity and dietary habits, also play an important role in modern obesity treatment. These tools allow for real-time tracking of therapeutic progress, increase patient engagement, and support the maintenance of long-term treatment effects. The use of digital technologies also promotes better communication between the patient and the therapeutic team, translating into greater effectiveness of the actions undertaken (Jensen et al., 2014; Bray et al., 2017; World Health Organization, 2022; Thomas & Bond, 2014; Berman et al., 2018).

10. Discussion

The results indicate that obesity constitutes a complex health issue, the treatment of which requires a multifaceted approach. Literature analysis confirms that poor health behaviors, particularly improper dietary habits and low physical activity, play a key role in its development. Consequently, lifestyle modification—encompassing dietary changes and increased physical activity—remains the cornerstone of therapy.

Contemporary therapeutic approaches increasingly incorporate supportive tools, such as dietary catering, which can promote improved dietary quality and enhance adherence to nutritional recommendations. Simultaneously, the significance of pharmacotherapy is growing, especially for patients in whom non-pharmacological interventions prove insufficient.

The use of semaglutide as a GLP-1 receptor agonist demonstrates high efficacy in weight reduction and the improvement of metabolic parameters. However, it must be emphasized that pharmacotherapy should serve as a supplement to, rather than an alternative for, a healthy lifestyle. The personalization of therapy, taking into account the patient's health status and individual needs, is of paramount importance.

11. Conclusions

Obesity is a chronic disease requiring a comprehensive and long-term therapeutic approach. Effective treatment should be based on the integration of actions encompassing lifestyle modification, an appropriately selected diet, and—in clinically justified cases—pharmacotherapy.

Diet therapy constitutes a fundamental element of treatment, while modern solutions, such as dietary catering, can support the implementation of nutritional recommendations and improve their effectiveness. Pharmacotherapy, including the use of semaglutide, can significantly enhance treatment efficacy, particularly in patients with obesity and comorbid metabolic disorders.

The necessity of personalizing therapy and implementing an interdisciplinary approach is emphasized, as it increases the chances of achieving lasting therapeutic effects and improving the patients' quality of life.

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