

# Physical Activity, Nutrition, and Healthy Living

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## Abstract

This review study aims to examine the effects of physical activity and dietary habits on healthy living and quality of life. The study comprehensively explores the negative impacts of a sedentary lifestyle on individuals' physical and mental health while emphasizing the positive contributions of regular physical activity and balanced nutrition to overall well-being. In this context, data from scientifically validated studies in the literature have been synthesized, evaluating the relationship between levels of physical activity, dietary habits, and health parameters. Drawing on systematic reviews and meta-analyses, the complementary roles of physical activity and healthy eating in enhancing quality of life are analyzed. The review highlights the significance of individual and societal interventions to promote healthy living, with a particular focus on increasing physical activity and improving dietary habits. The study aims to propose actionable approaches to reduce age- and lifestyle-related health risks and to contribute to the existing body of knowledge in this field. Accordingly, the necessity of addressing strategies for increasing physical activity, mitigating the effects of a sedentary lifestyle, and encouraging balanced nutritional practices at both individual and societal levels is underscored.

**Keywords** Physical Activity, Dietary Habits, Healthy Living, Quality of Life, Sedentary Lifestyle

## ÖZ

Bu çalışma, fiziksel aktivite ve beslenme alışkanlıklarının sağlıklı yaşam ve yaşam kalitesi üzerindeki etkilerini ele almayı amaçlamaktadır. Çalışmada, hareketsiz yaşam tarzının bireylerin fiziksel ve ruhsal sağlık üzerinde oluşturduğu olumsuz etkiler kapsamlı bir şekilde incelenmekte ve düzenli fiziksel aktivite ile dengeli beslenmenin sağlık üzerindeki olumlu katkıları vurgulanmaktadır. Bu bağlamda, literatürde kabul görmüş bilimsel çalışmalardan elde edilen veriler bir araya getirilmiş; fiziksel aktivite düzeyleri ve beslenme alışkanlıklarının sağlık parametreleriyle ilişkisine dair mevcut bilgiler değerlendirilmiştir. Çeşitli sistematik incelemeler ve meta-analizlerden yararlanılarak, yaşam kalitesini artırmada fiziksel aktivite ve sağlıklı beslenmenin birbirini tamamlayan rolleri incelenmiştir. Derlemede, sağlıklı yaşamı destekleyen bireysel ve toplumsal uygulamaların önemine dikkat çekilmekte, özellikle fiziksel aktivitenin artırılması ve beslenme alışkanlıklarının iyileştirilmesine yönelik öneriler sunulmaktadır. Çalışma, yaşa ve yaşam tarzına bağlı sağlık risklerini azaltmak için uygulanabilir yaklaşımlar geliştirmeyi ve bu alandaki bilgi birikimine katkı sağlamayı hedeflemektedir. Bu doğrultuda, fiziksel aktivitenin artırılması, hareketsiz yaşam tarzının etkilerinin azaltılması ve dengeli beslenme alışkanlıklarının teşvik edilmesine yönelik stratejilerin hem bireysel hem de toplumsal düzeyde ele alınması gerektiği vurgulanmaktadır.

**Anahtar Kelimeler:** Fiziksel Aktivite, Beslenme Alışkanlıkları, Sağlıklı Yaşam, Yaşam Kalitesi, Sedanter Yaşam Tarzı

## Introduction

Physical activity, balanced nutrition, and a healthy lifestyle are fundamental for maintaining individuals' quality of life and overall well-being. In recent years, the increasing prevalence of sedentary lifestyles and unhealthy dietary habits has contributed to the widespread occurrence of chronic diseases such as obesity, cardiovascular disorders, diabetes, and certain types of cancer (Çakır & Coşkuntürk, 2022). This situation has elevated the promotion of an active lifestyle and balanced nutrition to a global public health priority (World Health Organization, 2010)

Physical activity plays a pivotal role in maintaining both physical and mental health. Regular exercise not only strengthens the cardiovascular and musculoskeletal systems but also reduces the risk of chronic diseases and alleviates symptoms of anxiety and depression, thereby enhancing psychological well-being (Gönen et al., 2023; Haskell et al., 2007). Similarly, adequate and balanced nutrition is essential for the body's optimal functioning. Nutrients from diverse food groups contribute to energy production, immune system function, and overall physiological processes (Micha et al., 2017).

The synergy between physical activity and nutrition is significant in achieving a healthy lifestyle. While physical activity supports energy expenditure and weight management, nutrition fuels physical performance and recovery. Together, these elements form the foundation for long-term health and well-being (Warburton & Bredin, 2017; Swinburn et al., 2004).

In contemporary times, enhancing quality of life has become as significant as achieving longevity. Nutrition and physical activity are fundamental in promoting healthy ageing and minimizing age-related health risks through various strategies.

This study examines the interaction between physical activity and nutrition and their combined effects on promoting a healthy lifestyle. Drawing upon existing literature and recent advancements, it aims to comprehensively understand how these factors support individual and societal health initiatives.

According to the 2002 report by the World Health Organization (WHO), physical inactivity is responsible for approximately 1.9 million deaths annually worldwide (WHO, 2002). This contributes to an estimated 10-16% of cases of breast cancer, colon cancer, and diabetes, as well as 22% of heart disease cases (WHO, 2002). Integrating physical activity into various aspects of life is crucial in preventing these adverse outcomes.

Four primary domains in which individuals can incorporate physical activity into their daily lives have been identified:

Workplace: Physical activities performed during occupational tasks.

Transportation: Active transportation methods such as walking or cycling.

Household tasks: Daily domestic chores such as cleaning and cooking.

Leisure activities: Sports and recreational pursuits (WHO, 2002).

The increase in nutrition-related health issues, the decline in physical activity levels with age, and the prevalence of sedentary lifestyles, particularly among women, are notable concerns (Chau et al., 2012). This trend not only exacerbates individual health problems but also imposes a significant burden at the societal level.

Physical activity encompasses all bodily movements that result in energy expenditure, including daily routine activities such as household chores and shopping (Caspersen, Powell, & Christenson, 1985). Exercise refers to planned, structured, and repetitive movements specifically designed to improve fitness and health (Caspersen et al., 1985). Sport, on the other hand, involves physical activities performed individually or in teams with the aim of surpassing one's own performance or that of an opponent, often within the framework of defined rules and competition. In Europe, the term "sport" is used more broadly to encompass exercise and leisure-time physical activities (Bauman et al., 2012).

Physical fitness is defined as the sustained ability to maintain a high level of physical capacity, including endurance, mobility, flexibility, and strength (WHO, 2020)

### **Consequences of Physical Inactivity**

A sedentary lifestyle is becoming increasingly prevalent in modern societies, leading to various health issues. Physical inactivity is a significant risk factor for the development of chronic diseases such as obesity, type 2 diabetes, cardiovascular diseases, and certain types of cancer (Coşkuntürk et al., 2023; Booth et al., 2012). Additionally, inactivity contributes to a decline in muscle mass, a reduction in bone density, and impairments in metabolic functions, negatively affecting overall health (Hamilton et al., 2008). Therefore, promoting regular physical activity is critical in preventing the adverse outcomes associated with inactivity.

The optimal intensity, type, and frequency of physical activity suitable for different populations still need to be determined. However, there is a consensus on the recommendation of daily 30 minutes of moderate-intensity exercise. For young individuals, longer durations and vigorous exercise contribute to healthier bones and muscles. Physical activity does not necessarily involve strenuous marathon running or competitive sports. Activities such as walking to school, strolling in a park, using stairs instead of elevators, or getting off the bus a few stops early to walk can all be considered forms of physical activity.

It is estimated that 60% of the global population does not engage in sufficient physical activity, with adults in developing countries exhibiting mainly sedentary lifestyles. Childhood and early adulthood represent the most opportune periods for fostering physical activity habits and ensuring their continuation throughout life. Once sedentary behaviour and poor dietary habits become established at a young age, altering these patterns in later stages of life becomes exceedingly challenging.

The human body is inherently designed for physical activity. Over the past two decades, extensive population-based studies and other experimental research have unequivocally demonstrated that physical inactivity contributes to the development of diseases and premature mortality.

Engaging in moderate levels of physical activity, particularly from middle age onwards, is twice as effective in preventing premature mortality and serious illnesses. In the prevention of cardiovascular diseases, eliminating physical inactivity—recognized as the fourth major risk factor—has been demonstrated to offer benefits equivalent to those achieved by addressing high blood pressure, lipid metabolism disorders, and smoking.

The impact of disease and mortality extends beyond individuals and their families, generating substantial economic costs due to lost productivity and healthcare burdens. In the United States, physical inactivity is estimated to increase the risk of heart disease by 18%, resulting in costs of approximately \$24 billion while raising the risk of colon cancer by 22%, incurring an additional \$2 billion in expenses. On average, healthcare costs for active individuals are calculated to be 30% lower than those for sedentary individuals. In the United Kingdom, obesity, observed in approximately 20% of the population and attributed at least partially to physical inactivity, is estimated to impose an economic burden of \$500 million.

### **Benefits of Physical Activity**

Regular physical activity plays a critical role in improving overall health and in the prevention and management of chronic diseases. It is particularly effective in reducing the risk of cardiovascular diseases, type 2 diabetes, obesity, and certain types of cancer.

Additionally, physical activity contributes to mitigating the severity of these conditions by regulating glucose metabolism, lowering body fat percentage, and maintaining blood pressure within healthy ranges. For instance, a meta-analysis demonstrated that regular physical activity reduces the risk of type 2 diabetes by 30% (Aune et al., 2015).

### **Psychological and Social Benefits of Physical Activity**

The psychological and social benefits of physical activity should be considered. Regular exercise supports mental health by reducing symptoms of depression and anxiety. Furthermore, it enhances quality of life by fostering social interactions. For example, a study found that individuals who engaged in physical activity at least three times per week experienced a 20% reduction in the risk of depression (Schuch et al., 2018). These findings underscore physical activity's comprehensive positive effects on physical and mental health.

Regular physical activity is a cornerstone of a healthy lifestyle. Combined with balanced nutrition, it plays a vital role in preventing chronic diseases and improving public health. Physical activity provides physical, mental, social, and emotional benefits for individuals of all ages while contributing to other positive outcomes, such as improved dietary habits, reduced tobacco and alcohol consumption, enhanced work capacity, and strengthened social relationships.

### **The Growing Challenge of Sedentary Lifestyles**

A sedentary lifestyle has become an increasingly prevalent issue worldwide. The physical and mental health problems resulting from inactivity affect not only individuals but also society as a whole, with significant economic and social repercussions. For instance, physical activity is instrumental in reducing the risk of severe health conditions such as heart disease, stroke, and colon and breast cancer. Additionally, it serves as an effective tool for alleviating depression, anxiety, and stress. From an economic perspective, reducing healthcare expenditures attributed to physical activity represents a valuable benefit, highlighting its importance.

### **Prevention of Coronary Heart Disease and Stroke**

Adopting an active lifestyle and engaging in at least moderate levels of aerobic exercise can reduce the risk of developing or dying from severe heart diseases by up to 50%. For instance, regular walking has been shown to lower the incidence of coronary heart disease. Similarly, commuting by bicycle, participating in enjoyable physical activities for four hours per week, or expending at least 800 kilocalories through leisure activities weekly has been associated with a reduced risk of such conditions (HSGM, 2023).

### **Obesity and Physical Activity**

In recent years, sedentary lifestyles, coupled with environmental changes such as the widespread use of motorized transportation, increased screen time, and the accessibility of high-energy, low-cost foods, have contributed to a significant rise in obesity rates. The proportion of individuals with a Body Mass Index (BMI) over 30 has tripled in the past two decades, a trend similarly observed in many developed countries. Research indicates that this increase is more strongly associated with a decline in physical activity than with elevated energy intake (WHO, 2022; General Directorate of Public Health, 2011).

Exercise not only supports weight loss in overweight or obese individuals but, when combined with calorie-restricted diets, enhances fat loss while preserving lean muscle mass, thereby improving body composition. Furthermore, physical activity effectively reduces abdominal fat accumulation and offers a more sustainable approach to long-term weight management compared to diet interventions alone (Jakicic et al., 2018).

### **Type 2 Diabetes**

The prevalence of type 2 diabetes has been rising rapidly, closely mirroring the increase in obesity rates. However, strong evidence suggests that physical inactivity also plays a significant role in this trend. Research has shown that regular physical activity can reduce the risk of developing diabetes by 33% to 50%. Walking, cycling, and gardening have been found particularly effective in lowering diabetes risk (General Directorate of Public Health [HSGM], 2011).

In addition to delaying the onset of diabetes, exercise improves blood glucose control in individuals already diagnosed with the condition. Exercise programs involving walking or cycling for 30-40 minutes three times a week have demonstrated modest yet significant improvements in blood glucose regulation among diabetic individuals (Jakicic et al., 2018).

### **Cancer**

Cancer remains one of the leading causes of mortality worldwide. Physical activity, mainly during leisure time or as a hobby, reduces cancer risk. Higher activity levels have been found to provide more significant benefits than moderate levels. The most substantial protective effect of exercise has been observed in colon or colorectal cancers, with studies indicating a 40-50% reduction in risk. Physical activity has also been shown to reduce the risk of lung cancer by 40% following smoking cessation and other lifestyle changes (HSGM, 2011; World Health Organization [WHO], 2022).

Similarly, physical activity offers significant benefits in reducing the risk of breast cancer, although its effects on prostate or testicular cancers are more limited. While the role of exercise in cancer treatment is less well-defined, there is limited evidence suggesting that it may slow disease progression. However, exercise has been demonstrated to alleviate symptoms that impact quality of life, such as fatigue and nausea (HSGM, 2011).

### **Musculoskeletal Health**

Musculoskeletal disorders, including back pain, osteoarthritis, and osteoporosis, are significant health issues that reduce quality of life and lead to loss of productivity. Regular exercise supports preventing these conditions by promoting the development of stronger muscles, tendons, connective tissues, and thicker and denser bones. This improvement in functional capacity enables individuals, particularly older adults, to maintain a more independent lifestyle.

### **Improved Mental Well-Being**

While the health benefits of physical activity are often associated with conditions such as coronary heart disease, cancer, obesity, and diabetes, its positive effects on mental health are equally significant. The World Health Organization (WHO, 2022) has projected that mental health disorders, including depression and anxiety, will become some of the leading threats to quality of life. Scientific studies have demonstrated that physical activity can reduce depression and enhance overall mood. Additionally, it has been shown to lower stress levels, increase resilience to stress, and improve sleep quality (Jakicic et al., 2018; WHO, 2022; Çakır & Erbaş, 2021; Kurt et al., 2010).

### **Physical Activity Recommendations**

The adverse effects of a sedentary lifestyle are well-documented. Individuals who lead more active lives experience reduced risks of mortality from heart disease and lower incidences of severe health conditions such as cancer and diabetes. Additionally, physical activity facilitates weight management, supports muscle and bone health, enhances physical work capacity, and improves psychological well-being and overall quality of life.

Research indicates that regular physical activity extends life expectancy and enhances quality of life.

Exercises involving large muscle groups performed regularly are recommended to improve cardiovascular fitness. These activities should be conducted at 60-80% of maximum heart rate, a guideline health professionals have advocated for over two decades. Maximum heart rate is typically calculated by subtracting a person's age from 220.

The type and intensity of physical activity play critical roles in developing various aspects of health and fitness. For example, a leisurely lunchtime walk might not suffice for improving cardiovascular fitness but can enhance mood, reduce stress, and contribute to weight management. Small but consistent daily activities help maintain energy balance, supporting long-term weight control. For instance, standing for an hour instead of watching television can result in losing 1-2 kilograms of fat annually. Similarly, a 20-minute brisk walk can lead to a 5-kilogram weight loss over a year. Such regular activities significantly benefit cardiovascular fitness and overall physical and mental health.

Reducing time spent on sedentary activities, particularly television watching, represents a positive behavioural change. Additionally, strength and flexibility exercises are essential for older adults. These activities support muscle and joint health, enabling older individuals to maintain a more independent and active lifestyle.

### **Strategic Planning for Physical Activity and Nutrition**

Physical activity and dietary habits are foundational elements of a healthy lifestyle. Proper planning of nutrition and activity is crucial to maintaining energy balance and meeting the body's needs during exercise. Harmonizing physical activity and dietary habits forms the cornerstone of a sustainable and healthy lifestyle. In this context, the implementation of the following recommendations is considered beneficial:

- Support exercise routines with a healthy and balanced diet.
- Ensure adequate hydration before, during, and after exercise.
- Avoid starting exercise on a full or empty stomach; consuming a main meal approximately 4 hours prior to exercise is recommended.
- Avoid foods high in simple carbohydrates and fats (e.g., fruit juice, chocolate, candy) before exercise.
- For exercise lasting more than an hour, consider consuming beverages containing 6-8% carbohydrates.
- Minimize sedentary behaviors. Avoid sitting for more than 30 minutes while watching television, working on a computer, or resting.
- Increase daily activities such as walking. For example, park farther away, get off the bus a few stops earlier, or use stairs instead of elevators as healthier options.
- Utilize physical activity as a tool to improve mood and manage stress. Short walks are particularly recommended when feeling sad or bored.
- Choose activities aligned with personal interests that can be sustained long-term.
- Develop a flexible exercise plan to maintain consistency without guilt if exercise is missed for a few days.
- Consult a healthcare provider to assess individual health status before starting an exercise program.
- Wear appropriate clothing and footwear during exercise.

- Begin exercise routines gradually and increase intensity progressively. Pay attention to the body's signals (e.g., dizziness, nausea, pain, excessive fatigue) and reduce intensity as needed.
- Gradually increase the volume and intensity of exercises to suit individual capabilities.
- Perform household chores personally as an effective way to increase physical activity.
- Encourage participation in sports events organized at workplaces or schools.
- Engage in at least 30 minutes of moderate-intensity physical activity on at least five days a week. Incorporating such activities into daily routines ensures sustainability.

Implementing these recommendations can significantly contribute to improving both physical and mental health.

### **Activity Pyramid**

The Activity Pyramid is a model designed to help individuals integrate physical activity into their daily lives in a balanced manner. This pyramid organizes various physical activities into hierarchical layers, ranging from daily movements to more intensive exercises, and specifies each layer's recommended frequency and duration.

- Strive to increase activities at the foundational level of the pyramid:
- Opt for stairs instead of elevators,
- Incorporate multiple short walks into your day and seize opportunities to walk whenever possible,
- Perform stretching exercises during prolonged periods of inactivity.

### **Rules of Nutrition**

For individuals aiming to enhance physical performance and maintain overall health, adopting a balanced and varied dietary pattern is crucial to ensure adequate intake of energy and essential nutrients. When structuring their nutritional regimen, individuals engaged in exercise are advised to consider the following principles.

### **Categories and Functions of Nutrients**

Nutrients are classified into six main categories: carbohydrates, fats, proteins, vitamins, minerals, and water. The primary functions of these nutrients include supporting growth and development, providing energy, and regulating metabolism.

### ***Consumption of Food Groups***

It is recommended that individuals who engage in exercise consume the following portion sizes in their daily diet:

- 2-3 servings of dairy products (milk, yogurt, cheese),
- 2-3 servings of protein sources (meat, fish, beans, eggs, nuts),
- 3-5 servings of vegetables, 2-4 servings of fruits,
- 6-11 servings of bread, grains, rice, and pasta.

This balanced distribution supports the intake of the essential nutrients required by individuals.

### ***The Importance of Carbohydrates***

Complex carbohydrates should be prioritized as the primary energy source for individuals engaged in exercise. Sources of complex carbohydrates such as bread, grains, rice, and pasta help maintain muscle glycogen stores, ensuring energy balance during physical activity. According to the World Health Organization, more than 50% of daily energy intake should come from carbohydrates. These foods are also rich in dietary fibre, minerals (e.g., calcium, potassium, magnesium), and B vitamins, forming the foundation of the nutrition pyramid.

### **Protein and Fat Consumption**

It is recommended that individuals who exercise consume moderate amounts of protein, as excessive protein intake does not contribute to increased muscle mass. Additionally, consuming fatty foods should be limited, as they are slow to digest, and excessive intake can have detrimental health effects.

### **Vitamin and Mineral Requirements**

For individuals engaged in intense physical exercise, antioxidants such as vitamins A, C, and E play a crucial role. These vitamins assist in the removal of harmful substances produced in the body during strenuous physical activity. Adequate intake of minerals like iron, calcium, and zinc is vital for maintaining a healthy metabolism. However, additional vitamin or mineral supplementation is typically unnecessary when a balanced diet is followed.

### **Balance of Plant-Based and Animal-Based Foods**

It is recommended that plant-based foods be prioritized in the diet, with animal-based foods consumed in limited amounts. This approach supports the creation of a healthy diet by increasing dietary variety.

### **Priority of Grains**

The foundation of the diet should consist of carbohydrate-rich grains and grain products. Consuming bread, pasta, rice, and similar products several times a day is essential for providing energy and maintaining balance in other nutrients. Foods from the grain group are particularly notable for their low-fat content and rich nutrient profiles.

### **Role of Fiber-Rich Foods and Carbohydrates in Health**

Increasing fibre intake in the diet is crucial for overall health. In this regard, it is recommended to emphasize the consumption of whole-grain products such as whole-wheat bread, pasta, and other whole-grain items. Carbohydrate consumption should not be avoided, as carbohydrates are the body's primary energy source, with a lower energy content than fats. One gram of carbohydrates provides 4 kcal of energy, while one gram of fat provides 9 kcal.

Fiber-rich foods are abundant in complex carbohydrates, which have numerous positive health effects. The dietary fibre in these foods protects against conditions such as constipation, diverticular disease, and haemorrhoids. Additionally, it helps lower blood cholesterol levels, supporting cardiovascular health. Dietary fibre also plays a significant role in weight regulation, making it easier to manage body weight.

### **The Importance of Vegetables and Fruits**

The consumption of fresh vegetables and fruits (at least 400 grams per day) is essential for health. However, many individuals do not incorporate enough of these into their daily diets. Vegetables and fruits provide vital micronutrients (minerals and vitamins) that are necessary for the proper functioning of the body. Fresh vegetables and fruits, in



particular, are rich in minerals such as iron, calcium, magnesium, and potassium, as well as vitamins A, C, B6, folic acid, and dietary fiber. Additionally, these foods contain both essential nutrients and non-nutrient components.

Vegetables and fruits play a significant role in reducing the risk of obesity and obesity-related diseases, such as cardiovascular diseases, certain brain disorders, specific types of cancer, and type 2 diabetes, due to their low energy density. Their low fat and energy content further enhances their contribution to weight management and overall health.

Increasing the intake of fiber-rich complex carbohydrates and vegetables and fruits is an integral part of a healthy lifestyle and provides protective effects against many chronic diseases.

### **Healthy Nutrition and Fluid Intake: A Guide for Individuals Engaging in Exercise**

Developing a balanced eating habit is paramount for individuals engaged in exercise to enhance physical performance and support overall health. The appropriate consumption of both animal and plant-based foods, maintaining fluid balance, and controlling energy intake are fundamental components of a healthy lifestyle. Below are key insights and recommendations regarding these aspects.

#### **Role of Animal-Based Foods**

Animal-based foods are indispensable for growth and development, particularly for children and adolescents. However, they are also essential for the proper functioning of the body in later stages of life. This food group provides high-quality proteins with a high biological value and essential amino acids. Additionally, animal-based foods are rich sources of vitamin B12 (not found in plant-based foods), iron, magnesium, zinc, chromium, and omega-3 fatty acids. Fish, in particular, offers protective effects against chronic conditions such as cardiovascular diseases due to its omega-3 content. Therefore, increasing fish consumption is recommended.

#### **The Importance of Fluid Intake**

Water is essential for life, and adequate daily fluid intake is paramount. It is recommended that adults consume at least 2 liters of water per day, with the amount increasing to 3 liters during hot and humid weather or periods of intense physical activity. Since fluid loss during exercise can negatively affect performance, increasing fluid intake during these times is necessary.

Drinking about 2-3 cups of water before exercise is advisable.

During exercise, consuming approximately a small cup of water is recommended every 15-20 minutes.

After exercise, it is important to rehydrate by drinking plenty of water to replace lost fluids.

Urine color and volume can provide insights into the body's hydration status. Dark-colored urine indicates inadequate fluid intake, while light-colored urine suggests proper fluid balance. In addition to water, beverages such as ayran, soup, and milk can be consumed to meet hydration needs. However, caffeinated drinks like tea and coffee should be consumed in limited amounts, as they increase urine production.

Milk and dairy products are excellent sources of calcium, protein, and vitamins A, D, and B necessary for bone health. However, it is important to choose low-fat versions of these products. High-sodium foods, such as cheese, should be replaced with lower-sodium alternatives. The positive effects of exercise on reducing bad cholesterol (LDL) and increasing good cholesterol (HDL) can be further supported by a balanced nutrition plan.

### **Energy Balance and Physical Activity**

Maintaining a balance between energy intake and expenditure is fundamental to a healthy life. Excessive energy intake can lead to long-term increases in body mass and the development of obesity-related diseases, such as cardiovascular diseases, cancer, and type 2 diabetes. This process is accelerated, particularly when individuals shift away from traditional eating habits towards consuming high-calorie processed foods (e.g., hamburgers, pizza, fried foods) and reduce their level of physical activity.

A balanced diet, adequate fluid intake, and a lifestyle supported by physical activity are crucial for maintaining a healthy body weight and overall well-being. These principles will help individuals preserve their physical and mental health over the long term. Daily brisk walking (6 km / 60 minutes) is an effective method for maintaining energy balance. These activities can be made sustainable by breaking them into shorter sessions. Similarly, sports such as cycling, swimming, and light jogging also increase energy expenditure, contributing to weight control and general health.

### **Monitor Your Body Weight and Body Composition**

The Body Mass Index (BMI) is a widely used method for assessing the suitability of an individual's body weight relative to their Height. A normal BMI falls within the range of 18.5 to 25 kg/m<sup>2</sup>. To determine whether your body weight is within the normal limits, you can easily calculate your BMI using the following formula:

$$\text{BMI} = \text{Weight (kg)} / \text{Height (m}^2\text{)}$$

For example, for an individual with a height of 160 cm (1.60 m) and a weight of 55 kg, the BMI would be calculated as:

$$\text{BMI} = 55 / (1.60)^2 = 21.4$$

In this case, the individual's BMI is within the normal range. However, it is essential to note that BMI alone is not a sufficient assessment tool for individuals who engage in regular and intense exercise, particularly athletes. Since athletes typically have higher muscle mass, their BMI may be above the normal range (e.g., BMI = 26), which could mistakenly suggest obesity.

Therefore, in addition to BMI, body composition (i.e., body fat percentage) should also be considered when evaluating the appropriateness of body weight. If an individual's body fat percentage and Weight are above average, a weight loss program supported by exercise and supervised by a professional dietitian is recommended. A weekly weight loss of 0.5-1 kg is considered appropriate in such a program. It is essential to stay within this rate to ensure a healthy weight loss process.

A combined assessment of both BMI and body composition analysis allows individuals to gain a more accurate understanding of their overall health status.

### **A Healthy Diet: Key Principles and Development of Nutritional Habits**

A healthy diet is based on the balanced and adequate intake of essential macronutrients (carbohydrates, fats, proteins) and micronutrients (vitamins and minerals) necessary to support the body's functions. The primary aim of healthy eating is to support growth and development in children and adolescents. At the same time, in adults, it ensures the proper functioning of organs during rest and physical activities.

The quality of the diet, particularly the timing and appropriate amounts of nutrient consumption, directly affects exercise performance. Therefore, it is crucial to prioritize variety in the diet to ensure an adequate intake of vitamins and minerals. The fundamental nutritional principles for a healthy life are as follows:

- Consume a sufficient quantity of food to meet energy needs,
- Obtain the majority of energy from carbohydrates,

Ensure appropriate food and beverage choices to meet carbohydrate requirements during and after exercise,

Consume a variety of foods to meet protein, vitamin, and mineral needs,

Maintain hydration through adequate fluid intake,

Use nutritional supplements carefully and consciously.

For a healthy life, individuals are encouraged to ask themselves the following questions:

How many main meals and snacks do I consume throughout the day?

What foods and quantities do I consume at breakfast, lunch, and dinner?

How much fresh vegetables and fruits do I consume daily, and is this amount sufficient?

### **The Importance of Nutrients and the Energy They Provide to the Body**

Our nutritional habits provide the energy necessary for the proper functioning of organs such as the heart, brain, and liver and for maintaining vital functions like breathing. We do not simply sit; we move, work, and change positions. Each of these activities requires energy. This situation can be compared to a car: just as a car cannot operate without fuel, our body cannot function without adequate nutrition.

The primary source of energy is carbohydrates. Without sufficient carbohydrates, the body utilizes fats to generate energy. Fats also play a crucial role in transporting vitamins A, D, E, and K. Energy can also be derived from proteins; however, the primary function of proteins is to support growth and development, as well as tissue repair. The body's need for vitamins and minerals, essential for normal functioning, should also be noticed.

### **Current Situation: Healthy Eating and Physical Activity Habits**

Research indicates that the population's nutritional habits are unhealthy and require improvement. When combined with assessments based on Body Mass Index (BMI), current data reveal that a significant portion of the population is at risk health-wise. For example, more than 50% of individuals are overweight, and half of the population has high blood pressure. While the regulatory role of exercise in managing high blood pressure is scientifically proven, only 15% of the population engages in 30-minute exercise sessions more than twice a month. This highlights the severity of the issues related to unhealthy eating and physical inactivity.

A healthy diet and regular physical activity are crucial for improving quality of life and preventing many chronic diseases. It is recommended that individuals reassess their dietary habits to ensure sufficient intake of macro- and micronutrients, incorporate exercise into their daily routine, and adopt a balanced lifestyle. This approach will improve the current health status and reduce the health risks that may arise in the future.

### **Enjoying Food and Balanced Consumption**

Nutrition is not only essential for sustaining life but also an important life activity that should be enjoyed. By savoring a diverse and colorful plate, individuals can achieve both physical and emotional satisfaction. Food choices are influenced by individuals' traditional, cultural, and environmental characteristics, as well as factors such as age, gender, and special needs.

People often eat to satisfy their happiness and appetite, consuming foods they enjoy and find appropriate. However, nutrition is not solely about individual satisfaction; it also contributes to social development as part of sharing with family, friends, and communities. A healthy diet is built on a foundation of regular eating habits, consisting

of three main meals and two snacks. It is crucial not to skip main meals in order to maintain a healthy eating routine.

Small, gradual changes in lifestyle are more sustainable and easier to implement than large, radical changes. To begin this process, one can start by recording the foods consumed over the course of three days. For instance:

**Vegetable and Fruit Consumption:** If you consume very few vegetables and fruits in your daily diet, start by adding an extra serving of vegetables or fruit to one meal.

**High-Fat Foods:** There is no need to completely eliminate your favorite high-fat foods that may contribute to weight gain. Instead, you can try lower-fat alternatives, reduce portion sizes, or achieve balance by adopting a more active lifestyle (e.g., using the stairs instead of the elevator at work).

### **The Relationship Between Exercise and Nutrition**

More is needed to focus on proper nutrition only on exercise days to enhance athletic performance. Maintaining consistent and balanced nutritional habits throughout the year is crucial for long-term success. There are several critical considerations before, during, and after exercise:

#### **Pre-Exercise Nutrition:**

1-4 hours before exercise, a meal rich in complex carbohydrates and fluids contains moderate protein, is low in fat, and consists of familiar foods should be consumed. The specific portion size should depend on individual needs.

#### **Fluid Intake:**

During exercise, consuming approximately a tiny cup of water every 15 minutes is essential to maintain fluid balance.

#### **Post-Exercise Nutrition:**

Within the first two hours after exercise, it is vital to replenish muscle glycogen stores and replace lost fluids. During this period, foods and beverages rich in carbohydrates and those that help rehydrate the body should be prioritized.

Ensuring diversity in the diet, practising portion control, and paying attention to fluid intake is essential for adopting a healthy lifestyle and improving physical performance. Enjoying food in a balanced way is fundamental to maintaining a sustainable diet. This approach supports individual health while providing social and emotional satisfaction, enhancing overall quality of life.

Physical activity, balanced nutrition, and a healthy lifestyle significantly enhance individuals' quality of life and prevent diseases. Research shows that when these factors are combined, their positive effects on health are further amplified. Steps must be taken at the societal level to build a healthy society, beginning with individuals. In this context, the following recommendations are proposed:

It is essential to instil healthy lifestyle habits from an early age. Sports events and school nutrition education can effectively lay the foundations for these habits.

Solutions should be developed to reduce sedentary behaviour in work and daily life. For instance, programs encouraging movement breaks in office environments or policies that make access to open spaces easier can be implemented.

Mobile applications and wearable technologies can assist individuals in managing both their physical activity and nutrition habits. These tools make it easier for individuals to achieve their health goals.

Programs and individual counselling services should be provided at the societal level to support individuals in making healthy choices. A collaborative approach involving sports trainers, dietitians, and psychologists can offer holistic support.

Governments should develop policies to improve public health by reducing sedentary behaviour and promoting healthy living habits. These policies include the creation of more green spaces, the expansion of sports facilities, and the facilitation of access to healthy foods.

A healthy lifestyle begins with individuals' conscious choices but becomes sustainable with the support of society and the state. These recommendations summarize the steps that need to be taken to ensure individuals lead healthier lives and improve societal health levels.

#### Kısaltmalar / Abbreviations

##### **Etik Onay ve Katılım Onayı / Ethics approval and consent to participate**

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##### **Veri Ve Materyal Erişilebilirliği / Availability of data and material**

The data that support the findings of this study are available from the corresponding author upon reasonable request. The dataset will be accessible only for academic purposes, and any use of the data will recognize the original study and maintain the confidentiality of the participants.

##### **Çıkar Çatışması / Competing interests**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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