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The relationship between recreational sports activities and the prevention of chronic diseases: A theoretical study

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Abstract:

The study addressed the relationship between recreational sports activities and the prevention of chronic diseases from a theoretical perspective, showing the positive impact of these activities in improving overall health and delaying the onset of chronic diseases such as heart disease, diabetes, obesity, cancer, and mental illness. The study emphasized the importance of regular physical activity in preventing these diseases by promoting physical fitness, improving metabolism, strengthening the immune system, reducing inflammation, reducing stress, strengthening social bonds, and increasing a sense of happiness and belonging.

The study used theoretical frameworks such as "social cognition theory" and the "stages of change model" to explain the impact of physical activity participation, and reviewed the epidemiological evidence and clinical trials that support its protective benefits. It concludes with recommendations for strengthening public health programs, designing community-based programs to increase participation, and educating individuals about the health and psychological benefits of these activities.

Keywords: Relationship; recreational sports activities; chronic diseases;

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1. INTRODUCTION

Chronic diseases are one of the most serious challenges. They pose a major social and economic burden on individuals, families, and society. Engaging in sports and physical activity is one of the most important health-promoting tools. Studies show that recreational sports activities positively affect wellness and health and create behaviors that extend life and postpone the onset of chronic diseases. Research evidence demonstrates the benefits of participation in sports activities and the avoidance of a sedentary lifestyle. (Health Organization, 2022)

Chronic diseases are one of the most serious challenges. They pose a major social and economic burden on individuals, families, and society. They are the most common causes of death and make these individuals face large health expenditures and chronic problems. Epidemiological data exist that promote a healthy life, but a large number of health risks threaten human life. Although it is generally known that a healthy life is possible by reducing these health risks, it is obvious that there is a lot of effort to be made to adapt community life to be healthy. (Hacker et al.2021)

It is not possible to list the chronic diseases and their causes for a healthy and ideal life. The most accurate and acceptable answer to whether we lead a healthy life is given by health science. Data from epidemiological studies and the science of public health and statistics are evaluated, and a decision is made as to whether individuals have a healthy life. Individuals who live with low health indicators are thought to have a healthy life, while those with one or more negative health indicators are thought to have a lower quality of life. Although the period of these averages may vary from country to country due to some living conditions, chronic diseases are important because of the human and economic burden they create. (Kvarnström et al., 2021)

Preventive measures should therefore be taken to reduce the risk factors for chronic diseases. It is important to act in a more planned and regular manner in the use of available health resources through education, information, and activities to enable individuals to manage their own health. Many studies show that the risk factors of chronic diseases can be reduced in the social environment to avoid health problems. (Crosby et al.2021)



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Problematic:

Chronic diseases represent a global health challenge that drains the economic and health resources of societies, as they are associated with high mortality rates and economic burdens on healthcare systems. These diseases include heart disease, diabetes, obesity, obesity, and cancer, the prevalence of which is primarily attributed to sedentary lifestyles and unhealthy habits. Despite rapid medical advances, there is an urgent need to develop effective and sustainable prevention strategies to reduce the prevalence and impact of these diseases.

Recreational sports activities are an effective and affordable tool to promote public health and prevent chronic diseases. However, the precise understanding of the role of these activities and the mechanisms of their impact on reducing the risk factors associated with these diseases remains limited, which calls for further research to clarify the relationship using integrated theoretical frameworks that combine physiological, psychological, and social aspects.

To what extent can recreational sports activities contribute to the prevention of chronic diseases, and what are the physiological, psychological, and social explanatory mechanisms that highlight their protective role?

Objectives of the study:

1. To understand the relationship between recreational sports activities and chronic disease prevention.
2. Highlight the physiological and psychosocial benefits of recreational sports activities:.
3. Provide a theoretical framework explaining how recreational sporting activities affect health:.

2. Understanding Chronic Diseases

The term chronic disease is used to describe diseases or medical conditions that may be more persistent than episodic diseases. They are long-lasting conditions that can be controlled but not cured and are non-transmissible health problems that continue to worsen once they begin and may cause associated disability or death. Unlike expected, chronic diseases do not only affect the elderly; they can start in childhood and progress subsequently to an advanced phase. Sometimes, they are rare in persons under the age of 45 years. (Ruettermann et al.2021)

The age boundaries are arbitrary and vary, and in the case of tobacco use-related diseases, they may be less than 35 years. It is the leading cause of death worldwide. Of particular significance, particularly in minority populations, are cardiovascular diseases, cancer, chronic obstructive pulmonary disease, diabetes mellitus, liver and kidney diseases, and osteoporosis. Without the impact of recreational sports activities, a more significant increase in this rate around the world is inevitable. (Frank et al.2022)

Gradually, the situation becomes more worrying because chronic diseases related to human habits such as alcohol and hormone use, physical inactivity, unhealthy nutrition, obesity, higher cholesterol, high blood pressure, diabetes, and smoking contribute to about 73% of all deaths around the world. The prevalence of these diseases will continue to increase, especially with the rapid aging of the population, and regular physical activity is a critical determinant of health problems. Regular physical activity impacts heart disease, type 2 diabetes, metabolic syndrome, colon cancer, breast cancer, muscle weakening, obesity, depression, anxiety, and feelings of pain in the lower back. These factors are supportive according to fitness, muscle strength, and physical activity in the accumulation and continuation of physical activity throughout life, resulting from a healthy lifestyle. (Sasaki et al.2021)

2.1. Definition and Classification

In general, we can define each form of sports according to the purposes and intentions for which it is used. In relation to these purposes, physical activities are performed outside a profession. Recreational sports can be defined as a great common area that includes many branches of physical activity and can be performed at any age, revealing a great complexity about the multitude of motivations that cause people to play games. The word 'game,' which is based on the concept of recreation, refers to activities that people carry out with pleasure and free will, for which they do not have any gain.

Despite the fact that various games provide opportunities for many complex physical skills such as running, sliding, jumping, catching, kicking, focusing eyes on an object, and coordinating hands and eyes, for many individuals, participating in these games can be a more direct outcome of enjoyment than more physical activities.

In our daily life, we perceive that the terms play, leisure, and vacation are used as if they express the same meaning, but they are used correctly to express different concepts. Recreation is the group of activities carried out during leisure



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time, which means the time period remaining after all compulsory work and school activities. (Heidbuchel et al.2021)

It is also possible for those who are not busy with forced working hours, such as the elderly, to have leisure time. In addition to spending time on activities such as travel, shopping, reading, going to the theater or movies, concerts, and radio and television performances, people who engage in these activities on their own initiative express that they enjoy their free time and feel good. When these people perform physical activities during some moments of leisure time, that is, when having fun with games and other sports, which makes it relaxing and enjoyable, they can be described as an expression. (Salman et al.2021)

The various games that are organized and held under these specific conditions, which are both free of charge and accurate in their execution, fall into the category of what we commonly call recreational sports activities. These sports are not only enjoyed by participants but also aim to encourage community engagement and promote physical well-being. (Lloret et al.2023)

2.2. Epidemiology and Global Burden

Chronic diseases are the premier public health problem in our century. The leading causes of preventable chronic illnesses are tobacco use, poor dietary patterns, lack of physical activity, and excessive alcohol intake. Physical inactivity and chronic diseases are closely linked. Inadequate physical activity represents a risk factor for diseases in both the developing and advanced world. (Jomova et al.2023)

Insufficient physical activity is one of the ten leading risk factors contributing to mortality. Despite the evidence linking inadequate physical activity to other health factors, most of the population in the Western world is not sufficiently physically active. (Holtermann et al.2021)

Recreational sports activities and habits play a significant role in helping individuals achieve adequate levels of physical activity for the reduction of preventable chronic diseases. Although economic development has led to increased leisure time, people are using this time in passive forms. Displacements and physical inactivity increase with economic development. In the 21st century, the primary health problems are coronary heart diseases and cancer. Today, in the developing world, one-eighth of deaths are due to chronic respiratory diseases, one-seventh of deaths are because of coronary heart diseases, and one-eighth of

deaths are due to cancer. These figures are expected to increase over the following 25 years. (Palermi et al.2022)

For many reasons, physical activities can protect against chronic diseases. A number of organizations have prepared declarations and reports to stress the importance of physical activities and to encourage solutions to the growing problem. These activities have numerous benefits. With the help of physical activities, sustainable economic development can be achieved. In the industrialized world, chronic illnesses create large economic burdens. In the United States, this figure is more than 800 billion dollars per year. (Ehrman et al., 2022)

For chronic heart diseases, the figure is more than 83 billion dollars, and for cancer, the figure is more than 104 billion dollars. In the United Kingdom, the figures are more than 11 billion pounds for physical inactivity and obesity. (Jomova et al.2023)

3. Recreational Sports Activities as a Preventive Measure

The role of REC activities in the preventive control of chronic diseases is a topic that has attracted the interest of specialists who study physical activity and who are supported by the vast amount of knowledge available on the subject. However, most work has focused on the description and analysis of cases, and there are few theoretical approaches to the relationships or mechanisms that need to operate between the leisure behavior of REC and the prevalence, control, incidence, or nature of the diseases. Therefore, this paper is aimed at considering, from a theoretical point of view, how the systematic practice of REC can help to control the chronic diseases most commonly found and whether the practice of low-recurring physical activities can contribute to the chronic character of REC. The practice of physical activity is presented, on the one hand, in the abundant specialist literature, as a more effective recommendation to promote and maintain the health of the population. (Filgueira et al., 2021)

There is no doubt about the importance of physical activity in the prevention of chronic diseases. There is solid scientific evidence on the relationship between physical exercise and health. This link is generally interpreted mainly in terms of energy balance, glycemic metabolism, blood pressure, lipid pattern, immune system, bone mineral density, endocrine diseases, and by increasing the levels of energy and stress, and by reducing the level of anxiety, quality of life, and other cardiorespiratory health markers. The most beneficial effects of REC occur if supplemented by good physical preparation and

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appropriate control and monitoring of the recommended indicators. (Jomova et al.2023)

3.1. Types of Recreational Sports Activities

There are numerous types of recreational sports activities, which are carried out by a great number of people almost every day for pleasure and relaxation. Exercise has always been limited to the establishment of physical capacities, expecting to prevent illness and improve health. Despite an increase in the number of lifestyle-related chronic diseases, preventive health and healthcare approaches are generally not effective, and people lack awareness of how to prevent these diseases. It is accepted that regular physical activity and a physically active lifestyle tend to lead to changes in health status. The importance of recreational sports activities, in particular, may require an understanding of what these recreational sports activities are and how physical activity and health can be supported. (Lee et al.2022)

Recreational sports activities are performed for improved pleasure, joy, well-being, diversion, excitement, or challenge, have no further aspirations related to competition, and are considered a form of relaxation and rest time. From this point of view, the ease of participation in recreational sports activities is emphasized, as is the feeling of participation and doing something without feeling stress or compulsion. Recreational sports are important, as they discourage individuals from adopting a work-oriented lifestyle. Recreational sports activities often bind humans together and help to create social networks. Recreational sports activities may lead to mild to moderate physical activity for the prevention and control of a large number of lifestyle-related chronic diseases. Societal major health benefits result from the preservation of moderate physical activity and physical activity-related welfare, becoming increasingly important issues in future society. The inclusion of educational recreational sports activities can, therefore, be regarded as a widely relevant public health strategy. (Chapman et al.2025)

3.2. Physiological Benefits

As it has already been mentioned, recreational sports support the physical health of individuals by positively affecting the relevant health parameters, adapting the body to exercise, and minimizing chronic diseases. Recreational sporting activities are very important in terms of contributing to the physical health of society, increasing the physical activity level of individuals, and ensuring they lead a healthy and comfortable life. (Karunarathna et al., 2024)

Recreational sports activities optimize the metabolic rate by increasing the level of energy production in the innermost cell mass and the presence of muscle power. In addition, all joints and capillaries are opened, and the cell walls of the muscles are cleared of fat in the nutrients needed. Thus, thanks to the space cleared by fat in the cell wall, glycogen intake into muscle cells is facilitated, and both power optimization and metabolic adaptation to exercising are provided. (Singh et al.2023)

Especially in the elderly, the physical activity level decreases, the metabolic disorder seen in individuals increases, and this negatively affects the quality of life. With various physical and physiological changes brought about by the sports performed, a number of metabolism problems and conditions that arise in the elderly are reduced. Among these physiological changes, the most important constituents that regain functionality are the cardiovascular, pulmonary, musculoskeletal, and metabolic systems. Therefore, it is necessary for the elderly and individuals in active life to regularly participate in recreational sports activities. (Hasson et al.2022)

4. Theoretical Frameworks in Health Promotion

The health promotion movement resulted in the emergence of a new field of study indicating multidisciplinary at the intersection with the health field. In this context, the concept of health, which had been a pathological issue for centuries, emerged as a process that increased people's life standards and well-being. On the other hand, it is emphasized that health is not a stand-alone phenomenon but is influenced by a number of interconnected variables. (Jomova et al.2023)

The development of health promotion strategies as a response to these dynamics is beneficial for the well-being of individuals, communities, focus, and general social functioning. Health promotion strategies consist of changes and improvements that are conscious, planned, and guided towards the improvement of health. Health promotion activities, on the other hand, were not perceived only by institutions responsible for public health, but individuals were empowered with the concept of empowerment. In this context, the importance of the contributions of the field of study of health promotion has been pointed out despite the long break after its commencement. There is no society that has not addressed this issue because of healthcare costs, environmental pollution, or the deterioration of the standard of living due to social issues. (Riegel et al.2021)

All activities carried out within the legal framework in order to prevent, eliminate, or control agent-based diseases are health activities. There are various



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classifications about health activities. Health promotion activities are one of these categories. In addition to physical and mental health, these activities aim at providing plural health that also includes psychological and social aspects. As a result, other activities that begin after the disease arises can be classified as health protection, early detection, diagnosis, treatment, and rehabilitation activities. (Jomova et al.2023)

Preventing diseases is indeed the primary goal of various health promotion strategies that are designed to enhance overall wellbeing. In addition to preventing illnesses, it is also very important to effectively persuade individuals to adopt and maintain a healthy lifestyle. Encouraging people to make positive choices will empower them to enjoy life to the fullest, maximizing their happiness and quality of life at the highest possible level. (Riegel et al.2021)

4.1. Social Cognitive Theory

Bandura proposed the social cognitive theory, which suggests that the experience of mastery, self-efficacy expectations, goals, attention, and persistence are important components of the construction of good performance. Through youth development programs in mastering social, emotional, and physical skills, the social cognitive theory may inspire confidence, fairness, community participation, and personal and social empowerment. People experiencing high levels of peer and social support are more likely to participate in sports and exercise. (Obidovna and Sulaymonovich2022)

The person with a strong influence of peer support, modeling perception, and self-efficacy expectations can help them achieve good to excellent results, as well as higher levels of social and physical competence. This is because the young person has community support and the opportunity to engage in more physical activities and connect with young athletes of the same age group. (Ehrman et al., 2022)

Frequent participation in youth sports can change their life values and attitudes, enhance personal and social skills, expand perceptions of goals, and promote healthy behaviors. In addition to sport-specific skills, the unique environmental characteristics of organized youth sports programs may provide profound and powerful social, emotional, and personal skills. The roots of any preventive function are in the 'physical fitness hypothesis,' which highlights the importance of recreational sports activities, ways that interrelationships between specific outcomes of performance, musculoskeletal fitness, body composition, and

the prevention of chronic diseases. That hypothesis suggests that the physical activity recommended for preventive sports should be sufficient. It is the volume involving moderate effort that is ideal to prevent chronic diseases. However, the specific type of recreational sports activity needed is less clear. (Jomova et al.2023)

4.2. Transtheoretical Model

The Transtheoretical Model (TTM) consists of five phases: (1) Precontemplation, (2) Contemplation, (3) Preparation, (4) Action, and (5) Maintenance. This model, which is frequently used in studies related to physical activity, predicts and describes the individual transitions between these processes related to exercise. If these promote behavioral changes in small steps, action increases the number of people who begin to exercise regularly and maintain this behavior in the long term. Personal and environmental factors affecting the behavior of maintaining regular exercise are also taken into consideration. It should be the target of wellness interventions based on TTM. (Cheval & Boisgontier, 2021)

As a result, TTM reflects the reasons, strategies, and struggles to quit smoking, reduce alcohol consumption, lower cholesterol, overcome obesity, develop safe sexual behaviors, and return to exercise at regular intervals. When the importance of regular exercise in chronic diseases is taken into consideration, TTM will help contribute to the promotion of a healthy life through the development of interventions that increase and support regular physical activity. The TTM stages of change are very important in knowing what should be done for individuals whose voluntary motives may prevent the onset of chronic diseases and encourage them to practice physical activities. (Bantham et al.2021)

The model that affects social and personal factors and behavior change also predicts transitions, helps theoretical research, and provides an understanding of physical activity. The TTM, developed to be used for several types of addictive behavior and to be more comprehensive, has a practical and effective theory used by sports trainers and administrators with a better understanding of active and inactive groups characterized by various participant demographic features who practice sports based on duration and irregular participation. The developmental process and the relationship between the variables work well in the promotion of sports. (Carty et al.2021)

5. Evidence Supporting the Relationship



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Several studies have observed that physical activity is associated with a lower risk for a wide range of chronic diseases. The results of a number of randomized, controlled studies also strongly suggest that regular physical activity positively influences the occurrence or reoccurrence of these diseases. The decreased risk is observed through inverse relationships with physical activity level, amounts of physical activity participated in per week, or physical fitness levels. (Chastin et al.2021)

However, invoking the relationship between it and any specific chronic disease as being causal is more difficult since cross-sectional health assessments on specific disease-endpoint categories may have resulted in positive or mixed findings. For instance, the observed beneficial association between physical activity and diabetes in epidemiologic studies is not consistently supported by data from clinical trials, which make a distinction between type 1 and type 2 diabetes. Moreover, other chronic disease outcomes, such as the length of survival in different cancer patients and patients with chronic obstructive pulmonary diseases, are likely to be influenced by a number of other determinants. (Riegel et al.2021)

Other cross-sectional studies simultaneously providing health-related fitness scores have demonstrated that the "fittest" individuals of any age have lower levels of chronic disease risk factors than those less fit. Unfortunately, questions have also been raised regarding the validity of these associations, and several methodological issues are problematic in estimating the risk associated with lower health or fitness status. This suggests that current understanding of the role that physical activity plays in the prevention or progression of most specific chronic diseases is incomplete. Furthermore, whether the beneficial effects of physical activity extend to all types of physical activity or require a minimum association or duration is unclear, as is the efficacy of various regimens of different types, intensities, and amounts of prescribed exercises. (Ehrman et al., 2022)

Numerous federal agencies and professional and public health organizations have released position papers or contributing reports pertaining to the promotion of physical activity, and in recent years, the research and public policy community has developed a strong but relatively controversial consensus. While the clarity and strength of detail may vary, all of these guidelines support engaging in a certain amount of physical activity to maintain and improve health and prolong longevity. Consequently, there are abundant health-related, economic, and

scientific motives to encourage the practice of exercise and recreational sports. Ultimately, it is generally accepted that encouraging adults to exercise during their formative years, when habits are potentially easier to establish and maintain, will increase the habit of exercising in their later lives. (Ginis et al.2021)

5.1. Epidemiological Studies

Several epidemiological studies have demonstrated that moderate-intensity recreational sports participation contributes to the prevention of chronic diseases. Elderly men and women with a higher level of participation in physical activity had a lower mortality rate from all causes than those who had a lower level of participation in physical activity. Various studies show a relationship of different durations of recreational sports participation with all causes of mortality as well as with the risk of developing specific chronic diseases. Men who reported recreational sports participation of more than 60 minutes per week had about a 75% decrease in risk for type 2 diabetes. Similarly, women who had more than approximately 200 kilocalories per day in expenditure in recreational sports participation per week had, on average, a 50% decrease in type 2 diabetes risk compared with those women with no expenditure in recreational sports. (Singh et al.2021)

A study showed a sigmoidal dose-response relationship between a higher dose or intensity level of sports participation and colon cancer incidence. Two prospective studies described that men and women with a higher intensity of recreational sports participation had a significantly reduced risk of developing cardiovascular diseases. The recreational sports participation that benefits chronic disease prevention includes the combination of two exercise components: exercise volume and intensity. The combination of different volume and intensity components and their relationship with chronic disease prevention is more comprehensively discussed in the Exercise Components for the Prevention of Chronic Diseases section. (Kanaley et al.2022)

5.2. Clinical Trials

5.2.1. Recreational Success Physical activity has applications at the core of a wide variety of chronic diseases. Like every aspect of life, developing a pleasant, long-term interest in the kind of physical exercise that is conducted is important to improve this performance. Recreational sport services require quality, affordable facilities with safe access, regardless of age, history of illness, or the existence of a special condition. The recreational nature of an activity should ensure that it is pleasant and relaxed and performed without a sense of coercion.



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Also, activities should be perceived as satisfying. There are differences among all individuals in the degree to which they appreciate the same activities. For areas reserved for sports activities to be seen as pleasant, the state of the field and the aesthetics of these activities should be taken into consideration. (Higgins et al.2021)

Comparable tests were conducted with trained patients with different backgrounds involved in a number of clinical trials. The intervention followed a personalized approach to prioritize exercise, with adherence as a primary endpoint. These analyses showed that older patients living in different communities are able to participate in community-based practice programs designed to endorse transparency and individual options. At a three, six, and twelve-month survey of the protocol, levels of participation showed equivalence to those recruited in the trial. Reciprocal quit, which was less than severe, was reported. These studies included a multisite risk intervention, which was successful in fostering cooperation with various patient types across distinct environments. The patient perspective could be valuable as future transfer continues. (Lee et al.2022)

6. Mechanisms Underlying the Preventive Effects

Physical activity plays a crucial role in promoting body health and even in preventing chronic diseases. It is the key to a healthier and longer life. Participation in physical activities mainly enhances physical fitness, protects the body's immune system function, slows down the rate of senescence in the body, reduces the risk of chronic diseases and their major associated health problems, and helps people recover from diseases. Recreational sports activities are the major form of physical activity in people's lives today and account for a large proportion of their leisure activities. The short-term and long-term costs of chronic diseases are expensive, although many chronic diseases can be prevented with improved physical activity. Consequently, increased interest in the prevention of chronic diseases has been noticeable. (Bernard et al.2021)

The physiological improvements and the enhanced physical fitness generated by regular participation in physical activities are the most direct benefits of these activities. It has been demonstrated that the improvements could effectively buffer the body against the effects of chronic diseases, such as hypertension, diabetes, and obesity. In addition, physical activity also provides protection against the major associated events of chronic diseases and improves

overall health. Conversely, a reduction or cessation in physical activity could degrade the physique and reduce or even abolish this protection. However, the long-term benefits of these improvements, the least intensive and most effective ways to achieve them, and how many improvements lead to physical fitness and body health are subject to further investigation. (Chastin et al.2021)

6.1. Immune System Modulation

Our immune response to infections and diseases is supported by a system made up of many types of cells, hormones, proteins, organs, and tissues called the body's immune system. Approximately 70% of the immune cells are located in the gastrointestinal system, which is why the relationship between the intestines and the immune system is the subject of many studies. Bacterial or viral infections or chronic diseases such as cancer or diabetes can lead to changes in the properties of the immune system. The treatment of these diseases is often carried out by increasing the immune response to enable the person versus disease battle to be resolved more quickly. Here, sports activities are considered a natural way to strengthen the immune system. (Kendzerska et al.2021)

The most effective way to strengthen the immune system is to have a good diet, manage stress well, and avoid substances that weaken the immune system. Many experimental studies have shown that even moderate physical activity strengthens the immune system and reduces the risk of chronic diseases. Moderate physical activity improves the lymphatic system's functions by causing the heart to beat at an optimal rate for circulatory efficiency. When the lymphatic system improves at the same rate as the blood circulation system, waste materials and toxins are removed from the body at optimal levels. Other benefits of moderate physical activity also influence the immune system to work better. Moderate physical activity helps the neuroendocrine system to relax and maintain a good structure. If this system has a good structure, the release of negative hormones is reduced, and the skin will also improve. Many studies found that moderate physical activity results in an increase in macrophages, neutrophils, natural killer cells, and cytokines that support the immune system. It also reduces inflammatory processes and helps to maintain the energy availability of the body. Keeping the energy level optimal means ensuring the physiological functions of the body are running efficiently. Many diseases, including chronic diseases, are associated with problems related to diet, stress management, toxic substances, and lack of exercise. (Chastin et al.2021)

6.2. Inflammation Reduction

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High levels of adiposity, particularly in the visceral region, induce increased production of adipocytokines with pro-inflammatory activity. Inflammation plays an important role in the pathogenesis of chronic diseases, and research shows that there is a close relationship between physical activity and inflammation. It has been proven that physical activity might reduce inflammation by modifying the production and release of cytokines, bringing anti-inflammatory effects. As proof of this, cultivated muscle cells release and metabolize inflammatory liver, adipose, and endothelial tissues. The evidence of the anti-inflammatory effects of physical activity is pivotal in evaluating which sport to suggest for people with atherosclerotic disease, and what the minimal amount of exercise to bring health benefits is. Health gardening can be applied in individuals ineligible for traditional exercise, and it is effective in reducing blood glucose in diabetic people. This type of physical activity could then be particularly advantageous in producing health benefits for individuals who are not eligible for traditional exercise or have low physical fitness. (Cai et al., 2021)

7. Psychological and Social Impacts

The psychological and social impacts of participating in recreational sports have been considered, as well as the relationships between physical inactivity and depression. Regardless of gender, age, or environmental settings, physical activity may help people reduce their depressive symptoms and decrease the likelihood of developing depression. Participants in recreational sports activities will gain more peers for mutual support, structured social interaction, group solidarity, and a sense of coherence. There is a therapeutic leveraging effect of recreational sports activities on the prevention of mental health problems and unhealthy behavior. Sport acts as a buffer for the impact of negative events or stressors leading to mental health risks. (Collado-Mateo et al.2023)

Different recreational sports in formal and informal settings promote social connection and feelings of empowerment. Positive social interaction leads to greater participation. This finding enhances the argument that sport is not merely a social phenomenon or product of social forces; rather, it is a social process that has psychological and social significance, as it contributes to a sense of community or network among participants and promotes diversity in experience. Peers have identified the value of having fun by enabling individuals to step back from themselves, from the immediate claims of their identity, and from a deep level of cognitive and emotional interest in themselves. Participants in

recreational sports activities, regardless of the nature of the support, experience sports settings as beneficial for their psychological health and development. Finally, what sport, social interaction, and fun offer is added vitality, an equalizing sense of personal worth, and meaning derived from group membership as opposed to personal status or external achievement. (Kanaley et al.2022)

7.1. Stress Reduction

Intense physical stress initiates the production of endorphins, which act on the emotional centers in the brain that regulate mood and emotion, thereby releasing a sense of enjoyment and comfort. Endorphins can reduce stress, depression, and anxiety, enhancing personal mental and emotional health. Those who participate in long-term recreational sports activities are not only healthier and happier but also have a longer life expectancy than those who do not participate. Their mental and ideological attitudes are relatively more optimistic and positive. This demonstrates that participating in recreational sports activities benefits the body; it has the effect of relieving stress. This study examined eight indicator variables of recreational sports: walking for one hour, jogging for 30 minutes, cycling for 45 minutes, swimming for 45 minutes, mountain climbing for 45 minutes, yoga for 60 minutes, strength training for 45 minutes, and playing sports games for 60 minutes. (Kanaley et al.2022)

7.2. Social Support Networks

Social support networks are links created to ensure the experience of the psychological, emotional, and physical needs of a person. People seek to be protected, loved, appreciated, and cared for. To create the appropriate level of social support networks, people often restrict their behaviors and activities within certain limitations. This restriction, however, can diminish life quality and health. Friends and family members are the ones to offer adequate social support. They help people release stress and difficulties, cheer them up, and show approval. Social support stimulates people to think of their own health. (Kanaley et al.2022)

Patients who have close and supportive social networks have a greater tendency to take care of their health than people who avoid any sort of social support over the same type of interest. These people show a constant improvement in their health state and well-being. Many of these people engage in daily exercise activities. Programs of physical development and competition create distinct and well-determined networks for individuals connected to one another. Such groups provide satisfaction, as physical and mental activity helps the release of stress. These long-lasting friendships formed throughout team activities inspire the

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members to respect one another, reduce the sense of isolation, and assist individuals in seeking a life of well-being, health, and longevity. Furthermore, these experiences help different generations communicate at the same level and encourage all members to realize the benefits of the sports movement for all minorities. (Park et al.2022)

8. Policy Implications and Recommendations

This article argues that recreational sports activities may have a positive impact in preventing chronic diseases. This is important because physical inactivity may be the fourth leading risk factor for global mortality. Studies have called attention to the importance of promoting physical activity or sports practice, not only in the older population but also in childhood with a diagnosis of some chronic diseases. This editorial work contributes to the literature by introducing the concept of leisure sports and theoretically analyzing a possible new channel between recreational sports activities and health outcomes for people with chronic diseases. Given this study's typical theoretical nature, there is no research data to directly explore the effect of participation in recreational sports activities on the prevention of chronic diseases. This is the primary limitation of this study and an important orientation for future research. However, despite these limitations, the present study has important policy implications and recommendations. According to the theory, a higher level of patient participation in recreational sports activities may contribute to the prevention of these diseases, stimulating engagement in sports. Therefore, we suggest an increase in knowledge of the pillars of recreational sports activities so that their benefits can be reported more comprehensively. A proper understanding of the practice may favor interaction and compliance with the practice. It is recommended that in therapeutic practice, health or leisure professionals consider having the engagement of their patients, who are already involved in sports practice, with public and structured support, including adequate and accessible infrastructure, trained human resources, and a personalization of the proposed intervention. The need to develop, implement, and evaluate more strategies regarding the promotion of this practice should also be reflected.

8.1. Public Health Initiatives

According to the last statement, the promotion of health and well-being among society requires that all people fulfill the conditions that encourage good questions for life. The duty of public health is to strengthen the social

determinants and invest in prevention to reduce inequalities. This emphasizes the critical role of promoting health for people and the conditions that tend to make health promotion an overlooked source of social responsibility. The central issue for public health is understanding that cultural factors have a major impact on disease, and the consequences of public health challenges change over time.

In this study, the aim is to practice sports as an effective preventive measure for chronic diseases, with the belief that financial and mental developments in recreational sports can be planned with preventive health and training programs to set appropriate standards and facilities for participants of different ages.

In societies, people who do not grow culturally through sports may experience negative emotional and mental inadequacies for the future. Transformation can only occur with safety in social life. The transition to a healthy lifestyle from birth or the creation of a good living environment depends on a variety of factors. Understanding the depth of the necessary social, economic, environmental, and complex factors is essential. Practices that embody the principles of the Ottawa Charter, such as education, trade policy, prevention policy, and service features, are crucial. In this respect, quality of life designs and practices in many areas should be prioritized. By creating a healthy, life-facilitating environment, the enabling effect will easily respond to the increasing public awareness and individual needs. In this sense, studies on the creation of such environments should be considered an important part of public and private sector policy. The main goal is to provide organized physical competition or recreational sports for all individuals without discrimination. Cooperation allows all participating actors to progress towards defined common goals. Investment in participation in international or local sports values, in order to achieve the definition of a sports culture in society, requires long-term sustainability in cultural reserves, through which such investments can be shared. This community must strive to provide society with the natural sports and practice of cultural elements that are vital.

8.2. Community Programs

Community programs should be designed to attract people to participate in sports. Every community, including the smallest and poorest ones, should have a host of programs their members could choose from. The benefits of these programs should override all the barriers that prevent people from participating. Program and community promotion should also raise awareness about the impact lack of participation can have on health and a person's life. The positive role that



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sports play in preventing almost all chronic diseases, compared to the minuscule amount of illness caused by long-term involvement in sports, needs to be conveyed. With well-run programs, qualified personnel, and other resources to assist them, the quality of participation in recreational sports should mandate community support. An approach that utilizes the skills and brings together the resources from each of the sectors naturally follows a comprehensive environmental model of health promotion. Weight, an important factor in many chronic diseases, has been selected to be illustrated as an important simple pathway for understanding. Addressing the growing problem of overweight and obesity can make important contributions to numerous aspects of health promotion. The number of chronic illnesses considered to be a result of excess body fat continues to rise at an alarming rate. This column will attempt to address the issue of weight because it is important and, fortunately, it is the one that is easiest for a person to understand that it's possible to don a pair of shoes and go for a walk. The preceding information suggests targets for intervention in public health policy.

9. Conclusion and Future Directions

Recreational sports offer individuals the capability to establish and maintain an active connection, to build and protect decision-making skills beyond their responsibility, to manage and improve tension, and to increase their willpower, self-efficacy, and self-confidence levels. These sports are rewarding techniques because they offer the opportunity to enjoy the pleasure of physical activity, to form social bonds, to establish one's personal philosophy, and to enjoy making use of time. To analyze the preventative effects of recreational sports on chronic diseases, approaches could be developed using a variety of parameters such as 'quality of life', 'happiness', 'efficiency', 'social benefits', 'prevention', and 'economic benefits'. Then, in order to demonstrate these relationships, experimental and/or comparative studies could be carried out for other recreational sports, which are not included in this study but have fitness activity potentials.

In addition, in these sports, research is required to exhibit how much time is adequate to lead an active life and to safeguard people's lifelong health. By increasing the motivation to perform particular recreational sports, this research is considered to encourage preventive healthcare, as well as the notion of 'health and self-care responsibility'. In the path of program creation, the department of sports

shall examine various recreational activities specifically adapted in terms of energy expenditure among college students and faculty. By informing individuals of age-related disease dangers and the benefits of a healthy life, the recommended guidelines estimate the importance of predicting and forestalling disease and help people build the knowledge, skills, and abilities they need for that.

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