

## Effects of Sports Practice in Older Adults: A Narrative Review on Psychosocial and Cognitive Benefits

### Efeitos da prática esportiva em pessoas idosas: Revisão narrativa sobre os benefícios psicossociais e cognitivos

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#### ABSTRACT

This study aimed to investigate the effects of sports practice in older adults, focusing on psychosocial and cognitive benefits. A narrative review was conducted, including studies published in any year, in Portuguese or English, and fully available in academic databases. The search was not limited to a specific database, encompassing relevant articles on the subject. The results indicated that sports practice in older adults promotes significant psychosocial benefits, such as greater social integration, reduced anxiety and stress, increased self-efficacy, and overall well-being. Sports like martial arts and team sports foster discipline, self-control, and improved quality of life. Regarding cognitive benefits, sports practice effectively mitigates age-related mental decline, positively impacting memory, executive functions, and neurogenesis. Modalities such as Tai Chi Chuan, aerobic, and resistance exercises were particularly effective in preserving and enhancing brain function. It is concluded that sports practice is an essential intervention for improving the quality of life in older adults, promoting physical, mental, and social health. This study reinforces the need to implement public policies and programs encouraging sports participation in this population, given its broad benefits for healthy aging.

**Descriptors:** older adults, physical activity, cognition

#### RESUMO

O objetivo deste estudo foi investigar os efeitos da prática esportiva em pessoas idosas, com foco nos benefícios psicossociais e cognitivos. Realizou-se uma revisão narrativa, incluindo estudos publicados em qualquer ano, nas línguas portuguesa ou inglesa, disponíveis integralmente em bases de dados acadêmicas. A busca não se limitou a uma base específica, abrangendo artigos relevantes sobre o tema. Os resultados indicaram que a prática esportiva em idosos promove significativos benefícios psicossociais, como maior integração social, redução da ansiedade e do estresse, aumento da autoeficácia e do bem-estar geral. Esportes como artes marciais e modalidades coletivas destacaram-se por promover disciplina, autocontrole e melhora na qualidade de vida. Em relação aos benefícios cognitivos, observou-se que a prática esportiva é eficaz para mitigar o declínio cognitivo associado ao envelhecimento, com impactos positivos na memória, funções executivas e neurogênese. Modalidades como Tai Chi Chuan, exercícios aeróbicos e resistidos foram especialmente eficazes na preservação e melhora da função cerebral. Conclui-se que a prática esportiva é uma intervenção essencial para melhorar a qualidade de vida de pessoas idosas, promovendo saúde física, mental e social. Este estudo reforça a necessidade de implementar políticas

públicas e programas que incentivem a prática esportiva nessa população, considerando seus amplos benefícios para o envelhecimento saudável.

**Descritores:** idosos, atividade física, cognição

## INTRODUCTION

Population aging is a growing global phenomenon driven by technological advances, improved healthcare conditions, and declining birth rates. The United Nations (UN) projects that by 2060, one in four people in Brazil will be over 65, bringing about profound social, economic, and healthcare transformations<sup>1</sup>. In this scenario, it becomes increasingly necessary to understand and promote strategies that support health and active aging.

According to the World Health Organization (WHO), individuals aged 60 or older are considered elderly in developing countries like Brazil, and 65 or older in developed countries<sup>2</sup>. However, much of the population still associates aging with frailty, illness, and inactivity, leading many to seek healthcare only in critical situations rather than adopting preventive practices throughout life<sup>1</sup>.

Mental health is also a growing concern among older adults: up to 16% of this population may experience depressive disorders, making depression the most common psychiatric condition in this age group<sup>3</sup>. While pharmacological treatment is commonly prescribed, it can lead to adverse effects, reinforcing the need for non-pharmacological strategies. In this context, regular physical exercise has proven effective in preventing and managing symptoms of depression, anxiety, and other psychosocial issues, in addition to contributing to well-being, self-esteem, and overall quality of life<sup>2,3</sup>.

Among the various forms of physical activity, sports practice stands out for offering not only physiological benefits but also cognitive and social advantages. Evidence points to significant differences between sedentary older adults and those who regularly engage in sports—the so-called master athletes—who show lower rates of depression, better cognitive performance, and more extraordinary life satisfaction<sup>4,5</sup>. Motivation to engage in sports may vary: men often associate it with competition, while women emphasize social interaction and health. Regardless of the reason, remaining physically active is essential throughout life.

Sports practice prevents chronic diseases and maintains functional autonomy. It also fosters social participation, reduces isolation, and enhances a sense of purpose in daily life. These factors are fundamental in addressing the challenges of aging, whose impacts go beyond clinical aspects and require an integrated approach focused on health promotion and quality of life<sup>6</sup>.

Thus, considering the relevance of physical activity as a tool for comprehensive health promotion, this study aimed to investigate the effects of sports practice in older adults, emphasizing its psychosocial and cognitive benefits.

## **METHODS**

This study is a narrative literature review aiming to analyze the psychosocial and cognitive effects of sports practice in older adults. The selection of studies was not limited by a specific time frame, allowing the inclusion of articles published in any year. Studies published in Portuguese or English, with full-text availability in PubMed, SciELO, LILACS, Scopus, and Google Scholar, were considered.

The inclusion criteria encompassed studies that specifically addressed sports practice in older adults, focusing on psychosocial aspects (such as self-esteem, social integration, and mental health) and cognitive factors (executive function, memory, and prevention of cognitive decline). Articles that addressed only general physical activity, studies involving younger populations, or those focusing exclusively on specific diseases were excluded. The search was conducted between January and March 2024, using combinations of descriptors such as: "older adults", "sports practice", "cognition", "psychosocial benefits", "physical activity", among others. Article screening was done by reading titles and abstracts, followed by a complete reading of the selected texts.

## **RESULTS**

### **Psychosocial Benefits**

Sports participation among older adults has proven valuable in promoting mental health, social integration, and overall well-being. According to the World Health Organization (WHO), older individuals should engage in at least 150 to 300 minutes of moderate-intensity physical activity or 75 to 150 minutes of vigorous-intensity exercise per week to achieve health benefits<sup>7</sup>. Within this framework, sports stand out not only as a form of physical activity but also as a source of leisure, cognitive stimulation, and socialization—an especially important factor considering the increased social isolation often faced by older populations.

Research shows that sports, particularly team sports and martial arts, offer significant psychosocial benefits. Badilla et al.<sup>8</sup> highlight that practices such as Tai Chi Chuan—used in interventions for individuals with Parkinson's disease—and Kyusho Jitsu—used with cancer patients—can improve quality of life, reduce anxiety, and strengthen self-perceived health.

Another relevant example is judo, a traditional Japanese martial art that cultivates discipline, coordination, mind-body control, and emotional self-regulation. Evidence suggests that judo can contribute to fall prevention and improve self-confidence in older adults, particularly in performing daily and complex activities<sup>9</sup>.

Conversely, physical inactivity is a recognized risk factor for the development of mental disorders such as depression and anxiety, in addition to being associated with chronic conditions. Although pharmacological treatments like serotonin reuptake inhibitors and benzodiazepines are commonly used, approximately one-third of patients fail to show significant improvement, reinforcing the need for complementary interventions like physical exercise and sports<sup>10</sup>. Indeed, both the WHO and NICE (National Institute for Health and Care Excellence) recommend exercise as either a primary or adjunctive treatment for depression<sup>11</sup>.

Klaps et al.<sup>12</sup> emphasize that chronic conditions such as fibromyalgia, arthritis, and generalized pain, alongside depressive and anxiety disorders, may worsen perceived disability and reduce self-efficacy. Sports participation interrupts this negative cycle by offering physical and emotional challenges that, once overcome, enhance individuals' sense of competence, self-esteem, and resilience. Many sports' moderate to vigorous intensity plays a crucial role in elevating mood, motivation, and sense of purpose—elements often diminished with aging.

Sports also serve as a strategy to combat high levels of stress and anxiety, which increasingly affect older adults in urbanized, fast-paced societies. Regular sports practice promotes the release of pleasure-related neurotransmitters, aids in emotional regulation, and offers opportunities for social interaction, helping build meaningful relationships and social support networks<sup>10</sup>.

Although specific studies on sports participation among older adults remain limited, research based on the Self-Determination Theory suggests that intrinsic motivation—fueled by enjoyment, challenge, and belonging—strongly predicts adherence and psychosocial benefit. According to Conde-Pipó et al.<sup>13</sup>, sports can evolve into a lifestyle, fostering autonomy, competence, and social connection, beyond the external motivations of competition and performance.

## **Cognitive Benefits**

Sports practice has become an effective strategy for maintaining and enhancing cognitive function in older adults. Evidence shows that structured sports—because they involve rules, strategy, competition, decision-making, and complex stimuli—offer benefits beyond physical conditioning, directly impacting essential cognitive functions.

According to Gómez<sup>14</sup>, dementia is one of the most prevalent conditions in aging, currently affecting about 45 million people worldwide. Projections indicate this number may double every two years. Without a cure, sports emerge as a non-pharmacological intervention with the potential to slow cognitive decline.

The cognitive effects of sports are especially observable in older adults over 50. Age-related changes often include attention deficits, working memory impairments, reduced processing speed, and compromised decision-making. Another crucial cognitive issue is reward system dysfunction, where individuals lose the ability to feel pleasure from gratifying stimuli. In this context, sports, which involve challenges, victories, and social rewards, stimulate brain areas linked to motivation and pleasure, thereby promoting cognitive plasticity<sup>15</sup>.

Sports engagement encourages quick decision-making, strategic planning, and real-time problem-solving—cognitive skills that tend to decline with age. Disciplines such as martial arts, tennis, volleyball, basketball, and combat sports involve visual stimuli, motor coordination, sustained attention, and working memory, all strengthening neural networks associated with cognition.

A randomized clinical trial conducted by Chen et al.<sup>16</sup> evaluated the effects of Tai Chi Chuan, a martial art with structured sporting elements, and found significant cognitive gains among older adults with type II diabetes. Combining coordinated movements, mindful awareness, and motor control produces meaningful improvements in executive function and memory.

Hernández-Mendo et al.<sup>17</sup> also highlight that sports participation in older adults prevents brain atrophy and preserves mental abilities. Attention, memory, and executive functioning improvements are closely linked to regular sports involvement, which stimulates neural networks through repetition, complexity, and emotional engagement.

Studies also indicate that irisin—commonly known as the "exercise hormone"—is released from skeletal muscles during sports and exerts neuromodulatory effects, promoting synaptic plasticity and neuronal regeneration<sup>18</sup>. These findings reinforce the role of sports not only as recreation but also as a neuroprotective tool in aging.

Finally, a meta-analysis by Zhang et al.<sup>19</sup> revealed that sports with higher cognitive and social components—such as team sports, martial arts, and racket sports—are associated with improved global cognition, memory, and inhibitory control, even in older adults with mild cognitive impairment. These findings support structured sports engagement as a powerful intervention for preserving brain health during aging.

## CONCLUSION

This study highlighted the extensive psychosocial and cognitive benefits of sports participation in older adults. On the psychosocial level, regular engagement in sports has been shown to enhance social integration, reduce anxiety and stress, improve self-efficacy, and foster a renewed sense of purpose. Specific practices such as martial arts and team sports emerged as valuable for improving the quality of life and preventing conditions like depression and fear of falling.

From a cognitive perspective, the findings reinforce the role of sports as an effective intervention to mitigate age-related mental decline. Benefits were observed particularly in memory, executive functions, and information processing. Evidence from the reviewed studies showed that sports modalities such as Tai Chi Chuan and other structured sports are especially beneficial for brain health, promoting neurogenesis, synaptic regulation, and the preservation of brain structure and function.

In summary, this review supports promoting sports practice among older adults as a multidimensional strategy to improve physical, mental, and social well-being. It also emphasizes the importance of public policies and targeted programs that expand access to sports for the aging population, recognizing their potential to enhance quality of life and delay the onset of age-associated conditions.

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## CONTATO

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