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The importance of assessing health-related physical fitness in adults and the elderly

The Importance of Health-Related Physical Fitness Assessment in Adults and the Elderly

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SUMMARY

The theme is about the importance of assessing health-related physical fitness in adults and the elderly. The general objective of this article is to demonstrate the importance of assessing physical fitness in promoting the health of adults and the elderly. The methodology chosen was bibliographic research, through a literature review. The results indicated that assessing physical fitness is an effective strategy to promote, monitor and maintain the physical, emotional and functional health of adults and the elderly. It was concluded that the assessment of physical fitness should be systematically incorporated into health and rehabilitation programs aimed at the adult and elderly population.

Keywords: Assessment. Physical Fitness. Aging. Health.

ABSTRACT

The theme deals with the importance of assessing health-related physical fitness in adults and the elderly. The general objective of this article is to demonstrate the importance of physics fitness assessment in promoting the health of adults and the elderly. As a methodology, we opted for bibliographic research, through a literature review. The results showed that assessing physical fitness is an effective strategy to promote, monitor and maintain the physical, emotional and functional health of adults and the elderly. It was concluded that the assessment of physical fitnessshould be systematically incorporated into health and rehabilitation programs aimed at the adult and elderly population.

Keywords: Evaluation. Physical Fitness. Aging. Health.

1 INTRODUCTION

The assessment of health-related physical fitness has proven to be a useful tool essential in promoting well-being and preventing disease among adults and the elderly. With the population aging is becoming a global phenomenon, the need is growing of effective strategies that favor the maintenance of functionality, autonomy and quality of life of these individuals. In this context, physical activity assumes a central role, contributing to physical, mental and social health.

Physical fitness is not restricted to the ability to perform athletically, but is linked the functionality of the body for daily activities, being considered an important

indicator of general health. Assessing this aptitude allows early identification of deficiencies, guidance personalized interventions and monitor the effects of physical exercise programs. Such assessments become even more relevant with advancing age, as they occur structural and functional changes in the body, such as decreased muscle strength, flexibility and cardiorespiratory resistance, in addition to reducing physiological resilience.

Regular practice of physical activities can promote numerous benefits for adults and the elderly, such as muscle strengthening, improved mobility and balance, prevention of falls and chronic diseases, as well as strengthening emotional aspects and social, through coexistence and maintenance of autonomy. The environment in which the elderly person is inserted, such as public spaces, social or religious institutions, also influences its motivation to remain active and engaged, and is therefore a factor to be considered in promoting healthy and productive aging.

In view of this, it becomes essential that professionals in the health and education sectors physics understand the importance of assessing physical fitness as a tool to guide effective interventions that favor the maintenance of functionality and the improvement of quality of life throughout the aging process.

The general objective of this article is to demonstrate the importance of assessing the physical fitness in promoting the health of adults and the elderly. To this end, the following were established: following specific objectives: a) understand the main characteristics of the process of aging; b) identify the benefits of physical activity in preventing diseases; and c) discuss the obstacles that hinder adherence to physical exercise practices. The methodology adopted was based on a bibliographical research, through a literature review, with the aim aim to gather and analyze theoretical contributions on the topic.

2 THEORETICAL FRAMEWORK

2.1 Population aging and health

Population aging has become an increasingly evident phenomenon in various societies. In recent decades, life expectancy has increased. Until the period of the Industrial Revolution, individuals over the age of 65 represented less than 3% of the population. Nowadays, in many countries, this percentage already exceeds 18%, reflecting demographic changes (Queiroz, 2024).

In Brazil, the demographic transition process indicates significant growth in number of people aged 60 or over — the age at which an individual is considered elderly by public policies (Carla; Carvalho, 2022). This increase is the result of a series of social transformations linked to urbanization, the fall in the birth rate, the insertion of women in the job market and technological advances. These factors require a response proportional in health care for the aging population.

Human aging is a continuous process, which begins in the womb and continues extends until the end of life. Several elements influence the way we age, such as eating habits, regular physical exercise, moderate exposure to the sun, stimulation cognitive, stress control, emotional support and a positive outlook on old age (Albino, 2022). These factors can mitigate the physical and psychological impacts of aging, promoting greater well-being and autonomy.

However, the elderly still face several social challenges, such as prejudice and isolation, especially after retirement, which can lead to social exclusion. Being the relational human, social distancing at this stage of life can generate negative impacts in emotional and mental health.

Physically, aging brings several anatomical and physiological changes, such as dryness and loss of skin elasticity, graying and hair loss, fatigue pronounced, decline in vision (such as presbyopia and cataracts), hearing loss, changes in smell and taste, as well as cardiovascular diseases, such as arteriosclerosis.

International studies indicate that approximately 15% of elderly people need some type of mental health care, and about 2% of individuals over 65 years of age present with depression (Santos et al., 2022) — not recognized by family members and caregivers, being considered as part of the natural aging process. In addition, they are common states of hypochondria, paranoia and other mental disorders in this age group.

The psychological aspects of aging are related to life history, heredity, lifestyle and individual attitudes. Healthy people with an optimistic attitude and who maintain social ties tend to view this phase as a period of maturity, freedom and opportunity for new experiences, moving away from the negative vision associated with old age (Carla; Carvalho, 2022).

Longevity has caused changes in health patterns around the world, with increased incidence of chronic diseases and changes in the morbidity and mortality profile. In this context, the emphasis of health policies and practices shifts from a focus on cure to promotion quality of life (Nita, 2023). The evaluation of the effectiveness of interventions should consider,

in addition to clinical parameters, subjective variables related to the perception of well-being and functionality of the individual.

2.2 The Importance of Physical Activity in Promoting Health and Functionality in Adults and Seniors

Regular physical activity is one of the pillars for promoting, maintaining and health recovery at all stages of life. Its benefits are proven by scientific evidence, influencing physical, physiological, cognitive and social aspects (Marques, 2024). However, adherence to physical activity can be influenced by several factors such as motivation, health conditions, environment and lifestyle.

Among the benefits provided by physical exercise, the improvement in flexibility through general training programs, which favors the breadth of movement and functional performance, both in upper and lower limbs, contributing to greater independence in daily activities (Monteiro, 2023).

Furthermore, physical activity plays a crucial role in controlling body weight and regulation of important health indicators, such as capillary blood glucose, blood pressure and lipid profile. It is also effective in improving posture, cognitive function, quality of sleep, socialization and relief from emotional disorders such as stress, anxiety and insomnia.

Regular exercise allows individuals to perform physical tasks. day to day with greater ease and safety, such as getting up from a chair, walking long distances distances or climbing stairs. This functional improvement translates into greater autonomy, aspect essential in the elderly population.

From the age of 60, physically active individuals tend to stabilize their index of body mass index (BMI), reducing the risks of obesity and associated chronic diseases. The The beneficial effects of physical activity also extend to the morphological and physiological level, with positive adaptations in muscles, joints and cardiovascular system. However, such adaptations are reversible: in the absence of regular practice, the organism tends to regress to state prior to training, gradually losing the gains achieved (Friedrich et al., 2022).

Therefore, incorporating physical activity as a lifestyle habit not only promotes health, but it is essential to maintain functionality, well-being and quality of life throughout throughout the aging process. Encouragement to practice regular exercise should be a priority in public policies and health promotion actions among adults and the elderly.

2.3 Physical exercise in old age

In old age, the human body presents physical and psychological limitations that require special attention to the choice and execution of physical activities. At this stage of life, it is not any type of exercise that can be practiced safely and effectively. For this reason, monitoring by qualified professionals becomes essential — such as doctors, physiotherapists and physical educators — to ensure safe interventions adapted to individual conditions.

The ideal exercises for the elderly should include four pillars: aerobic activities, flexibility exercises, strengthening of large muscle groups and training balance. These practices promote health and functionality, acting to prevent falls, one of the main risks among elderly people (Monteiro, 2023).

Although there are no exclusive recommendations for the elderly regarding the practice of physical activity, it is necessary to monitor the heart rate, which should not exceed 70% of the maximum capacity of the heart (around 164 beats per minute). However, for elderly people who use medication for hypertension, it is recommended that this limit be between 135 and 140 beats per minute.

Among the benefits of physical activities for this age group, the improvement stands out circulation, heart function and overall cardiovascular health. Low-intensity exercise intensity, such as walking and cycling, are recommended for beginners because present a low risk of injury. Cycling, although it requires more effort than walking, It also contributes to physical, emotional and social well-being when practiced outdoors. (Farias; Camargo, 2024).

Aquatic activities such as swimming and water aerobics are recommended for elderly people with osteoarticular diseases, such as osteoporosis and arthrosis. Water reduces the impact on bones and joints, reducing the risk of injury and making these activities safer and more accessible.

Physical activity also plays an important role in maintaining and increasing mass bone when started in adulthood. Impact exercises, when performed with caution, stimulate bone production by subjecting the bones to tensions that favor their densification. However, they must be well guided, because if poorly executed, they can increase the risk of fractures.

The muscle groups to be prioritized in elderly training are those related to carrying out activities of daily living: glutes, pectorals, quadriceps, dorsal, abdominals and deltoids. Sessions should last a maximum of 60 minutes, respecting

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the individual capacity of each practitioner. Flexibility must be worked on through exercises with materials such as mats, elastic bands, cushions and benches, which help to maintain posture and range of movement (Marques, 2024).

Among the methods that have been gaining prominence in prescription for the elderly, Pilates deserves attention. Created by Joseph Pilates, it is a physical conditioning program and mental that aims at harmony between movement, effort and body awareness. The method promotes integration between body and mind, being useful for the elderly by working with gentle yet effective movements focusing on strength, flexibility, balance and breathing.

The benefits of Pilates for seniors are diverse: pain relief, improved body awareness, muscle strengthening, improved balance, increased flexibility and stress reduction. An important highlight is the positive impact on self-esteem of practitioners, who are surprised to realize that they are capable of performing movements that previously thought impossible.

The World Health Organization (WHO, 2005) reinforces that the regular practice of physical activities can reduce the risk of death from cardiovascular diseases by up to 25%, even among patients already diagnosed with heart problems. Therefore, exercise should be seen as part of the treatment and not just as prevention.

Given the complexity involved in aging and its limitations, it is essential select activities carefully, respecting the individuality and objectives of each person (Carla; Carvalho, 2022). An ideal program should combine breathing, strength, balance and concentration, promoting physical, cognitive and emotional benefits. Therefore, the professional monitoring is essential, ensuring that practices are adapted to functional capacity of each elderly person, promoting health, functionality and quality of life.

2.3.1 The Role of Resistance Training in Maintaining Musculoskeletal Health and Functionality in the Elderly

Resistance training — also known as weight training or strength training — strength — presents itself as an essential strategy for promoting health and quality of life in old age. Its regular practice contributes to the maintenance and improvement of the function muscular and articular, helping to preserve functional independence and control the body weight.

Several studies demonstrate the benefits of resistance exercise for adults and elderly. Among the most relevant effects, the increase in muscular strength, the improvement

postural balance, agility and localized muscular resistance, in addition to gains in flexibility, mobility and cardiorespiratory capacity (Ricotta et al., 2022).

Resistance training also has a positive impact on cognition and memory, associated with improvements in executive functions, attention and information processing. Such gains are essential for maintaining autonomy and quality of life, given the neurophysiological changes characteristic of aging.

Another recognized benefit is the reduction of age-related muscle atrophy. The muscular stimulus generated by strength training promotes an increase in cross-sectional area transverse muscle, favoring the gain of lean mass and the increase in strength and resistance. In addition, resistance exercise stimulates an increase in bone mineral density, being effective in preventing and reversing sarcopenia — a condition characterized by the loss progressive loss of skeletal muscle mass and strength, common in aging.

For a resistance exercise program to be effective, it is essential that it includes, complementary form, activities aimed at developing flexibility and balance, providing comprehensive care for the elderly body (Farias; Camargo, 2024).

Given such evidence, the importance of including training becomes clear. resisted in the routine of adults and the elderly, as long as individual limits are respected and there is qualified professional support. When properly guided, strength training is a of the most effective interventions to combat the deleterious effects of aging and preserve quality of life in old age.

2.3.2 Osteoporosis and physical activity

Osteoporosis is a chronic and degenerative disease that has been gaining prominence in recent decades due to its high prevalence and the impacts it causes on quality of life among postmenopausal women and elderly people of both sexes. This condition is characterized by progressive reduction in bone mineral density, making the skeleton more fragile and vulnerable fractures, even in the face of mild trauma. The most affected areas are the femur and the spine vertebral, which can result in chronic pain, postural deformities and loss of height.

According to the Brazilian Society of Traumatology and Orthopedics (SBTO), it is estimated It is known that around 10 million Brazilians already live with osteoporosis, with the public female is the most affected. This predominance is due to hormonal changes resulting from menopause, which accelerate bone loss.

However, there is a lot of evidence that regular physical activity plays a role essential in the prevention and control of osteoporosis. Exercise contributes to the increased peak bone mass during youth, helps maintain bone mass in adult phase and reduces its loss during aging (Marques, 2024).

One of the physiological mechanisms that explains this benefit is the so-called effect piezoelectric, in which the mechanical forces generated during exercise promote microelectric currents in the bone (Monteiro, 2023). These currents stimulate osteoblasts — cells responsible for bone formation — in areas under compression, favoring remodeling and densification of bone tissue.

Among the recommended activities, the Pilates method stands out, used as a resource therapeutic and preventive in people with osteoporosis. Its application, when performed by qualified professionals and with medical supervision, it is safe, being indicated for both prevention and rehabilitation.

Early diagnosis of osteoporosis can be made through bone densitometry (or osteodensitometry), an examination that allows identifying bone density and estimating the risk of fractures (Hammami, 2024).

In addition to physical exercise, preventing osteoporosis requires an approach that includes a balanced diet rich in calcium and vitamin D, control of alcohol consumption, abstinence from smoking, adequate sleep and maintaining a healthy lifestyle (Sousa Santos, 2025).

Therefore, it is clear that regular physical activity should be encouraged at all stages of life, as a pillar for promoting health and quality of life. However, It is emphasized that the practice of exercises must be preceded by a medical evaluation and conducted by specialized professionals.

2.4 Assessment of Physical Fitness in Health Promotion

The assessment of physical fitness represents a fundamental instrument for the understanding the functional status and general health of adults and the elderly. Through tests specific, it is possible to identify physical limitations, monitor the progression of chronic diseases and outline appropriate interventions that promote greater autonomy, functionality and quality of life.

Several studies have highlighted the relevance of functional assessment instruments, such as the six-minute walk test (6MWT) in health monitoring

cardiovascular and respiratory function of patients with different clinical conditions. Cunha, Glória and Falcão (2022) for example, used this test to assess the functional capacity of patients in the pre and postoperative period of myocardial revascularization, demonstrating its effectiveness in measuring physical recovery.

Similarly, Ricotta et al., (2022) applied 6MWT in patients with non-cystic bronchiectasis, observing a high prevalence of below-average performance expected. Although this result was not related to quality of life, it was associated with advanced age and body mass index (BMI), reinforcing the need to consider physiological and anthropometric variables in the analysis of physical fitness.

Walking, as it is a natural, accessible and low-cost movement, is recommended as a form of aerobic physical activity among the elderly. Its benefits include improvements in cognitive function, weight control, cardiovascular health, bone and muscle strengthening, as well as emotional and social aspects. Nita (2023) identified that the ability to walk relates to health and quality of life in individuals with intermittent claudication, indicating that physical fitness objectively reflects the functional impact of vascular diseases.

Regular light walking improves motor coordination and reduces body fat and strengthening of the lower limbs, in addition to stimulating socialization and self-esteem in the elderly.

Studies involving the application of tests such as BMI, waist-to-hip ratio (WHR), chair sit-to-stand test, elbow flexion and sit-to-reach test in individuals between 50 and 86 years old indicate the presence of overweight and more even fat distribution accentuated in women, signaling the need for more specific approaches for each profile (Friedrich et al., 2022).

Furthermore, assessment of muscle function and functionality is essential in conditions such as osteoarthritis (OA) and rheumatoid arthritis (RA). Moraes et al. (2024) demonstrated lower functionality in elderly women with knee OA, while Franco (2025) associated physical and emotional impairment with the progression of RA, revealing the interaction between the aging process, chronic diseases and loss of functionality.

The articulation of these findings shows that the assessment of physical fitness is necessary to identify risks, plan personalized interventions and monitor results, being indispensable in multidisciplinary work focused on the health of adults and the elderly.

3 RESULTS AND DISCUSSION

The table below presents the studies used in this research.

Table 1 – Study Results

Author (Year)	Theme/Subject	Main Results
Albino (2022)	Anti-cancer lifestyle	Highlights the importance of physical activity, nutrition and complementary practices in the prevention of chronic and degenerative diseases.
Carla & Oak (2022)	Population aging	It highlights the need for public policies aimed at the physical and social well-being of the elderly.
Farias & Camargo (2024)	Physical activity for health	Regular physical activity improves balance in the elderly muscle strength, mental health and prevents chronic diseases.
Franco (2025)	Aquamentia© Program	Reports improvement in psychomotor, cognitive and functional domains in institutionalized elderly people after an adapted aquatic program.
	Body composition and muscle muscle strength	Normal weight older women demonstrated greater Friedrich et al. strength in lower limbs than those with (2022) overweight and obesity.
Hammami (2024)	Osteoporosis and prosthetic rehabilitation	It points out clinical challenges in the oral rehabilitation of osteoporotic patients, individualized approaches. recommending
Marques (2024)	Physical activity in the elderly	It argues that regular exercise improves functionality, autonomy and quality of life, being essential for healthy aging.
Monteiro (2023)	Exercise prescription	Proposes methods for safe assessment and prescription of exercise in aging exercises for the elderly, considering functional limitations.
Moraes et al. (2024)	Osteoarthritis and functionality	Dancing practice has been shown to be superior in improving knee functionality in women with osteoarthritis.
Nita (2023)	Physical condition assessment	Proposal for an evaluation protocol for adults and elderly people in gyms, aiming at safety and effectiveness in exercise prescription.
Queiroz (2024)	resources, such as the Fund in	Highlights the impact of population aging on the distribution of public Brazil. Demographic changes Participation of Municipalities.
Ricotta et al. (2022)	Post-Covid and physical health	It highlights the negative impacts of Covid-19 on lung and respiratory function and quality of life, recommending physical rehabilitation.
Santos et al. (2022)	Loneliness in old age	It associates social isolation with worsening mental health in the elderly, suggesting physical activity as a form of socialization.
Sousa Santos (2025)	autonomous care of adults and	Defends the role of nursing in promoting health and nursing in the the elderly through strategies for the elderly preventive.

Source: Survey data, 2025.

The results of this research show, based on the contributions of several authors, the relevance of physical fitness assessment as a tool for health promotion of adults and the elderly. Given the accelerated population aging (Queiroz, 2024), it becomes It is essential to understand the impacts of this transition on the health system, on policies public and, above all, in the quality of life of the elderly population.

Carla and Carvalho (2022) emphasize that aging is a process influenced through healthy lifestyle habits, such as a balanced diet and regular exercise physical. In this context, the assessment of physical fitness emerges as a key element for guide personalized interventions, contributing to autonomy and well-being. Albino (2022) complements by highlighting the importance of positive attitudes and emotional support as factors that modulate healthy aging, which reinforces the need for instruments of physical assessment that consider the physical, emotional and social dimensions of aging.

Marques (2024) advocates regular exercise as the basis of health in all ages, with emphasis on the elderly, in which the benefits extend to the prevention of chronic diseases, maintaining functional independence and improving capacity cognitive. Monteiro (2023) reinforces this view by pointing out that adequate assessment allows prescribe exercises adapted to the limitations and potential of the elderly, prioritizing activities that involve strength, balance, flexibility and endurance. The lack of physical practices regular, as shown by Friedrich et al. (2022), can lead to regression of functional gains, which highlights the importance of continuous assessments to maintain the benefits achieved.

Among the highlighted evaluation methods, the six-minute walk test (6MWT) appears as one of the most relevant. Cunha, Glória and Falcão (2022) demonstrated its effectiveness in evaluating patients pre- and post-operatively for myocardial revascularization. Similarly, Ricotta et al. (2022) observed that 6MWT allowed to identify limitations physical variables associated with aging and body mass index in patients with bronchiectasis. Nita (2023) used the test to relate functional capacity with quality of life in individuals with intermittent claudication, reiterating the role of fitness physical as a reflection of vascular and systemic health.

The application of complementary tests such as BMI, waist-hip ratio, sitting test and stand, elbow flexion and sit and reach test (Friedrich et al., 2022) also has demonstrated usefulness in characterizing the physical state of elderly and adults. Such instruments allow to identify conditions such as overweight and inadequate fat distribution between women, requiring specific intervention approaches.

Another fundamental aspect revealed in the literature is the relationship between physical fitness and chronic degenerative diseases, such as osteoporosis and osteoarthritis. Moraes et al. (2024) show that knee osteoarthritis compromises functionality in elderly women, while Franco (2025) relates the progression of rheumatoid arthritis to physical and emotional decline, reinforcing the importance of functional assessment for clinical monitoring and intervention early.

Finally, studies show that physical fitness can be preserved and improved even with advancing age, as long as there is adequate guidance. Farias and Camargo (2024) and Ricotta et al. (2022) highlight that resistance exercise, accompanied by regular assessments, provides significant gains in strength, balance, flexibility and function cardiorespiratory. These benefits are even more significant when integrated with practices self-care and adequate nutrition, as suggested by Sousa Santos (2025) and Hammami (2024), which reinforce the need for an interdisciplinary approach.

In this regard, the studies analyzed converge to the conclusion that evaluating the physical fitness is an effective strategy for promoting, monitoring and maintaining physical health, emotional and functional health of adults and the elderly, and should be integrated into public health policies and clinical routine.

CONCLUSION

Given the evidence presented, the present study confirms the importance of assessment of physical fitness as a tool for promoting the health of adults and the elderly.

The authors analyzed in this study demonstrate that physical fitness is related to prevention of chronic diseases, maintenance of functional independence, improvement of health mental health, control of body weight and promotion of general well-being. The application of tests physical, such as the six-minute walk test (6MWT), body composition assessment, muscular strength and flexibility, allows an accurate understanding of the functional state of the individual, guiding more effective interventions.

Regular practice of physical activity, prescribed and monitored by professionals qualified, helps to delay the physiological effects of aging, improve the physical performance and preserve the autonomy of the elderly. In addition, the integration between assessment physics and public policies aimed at healthy aging must be strengthened, with focus on preventive actions and the promotion of active and healthy lifestyles.

Therefore, it is concluded that the assessment of physical fitness must be incorporated in a systematic in health and rehabilitation programs aimed at the adult and elderly population, being a resource to ensure more active, functional aging with better quality of life life.

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