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Impact of Therapeutic Strength Training on Functional Capacity and Muscle Strength in Elderly Individuals with Sarcopenia

Impact of Therapeutic Weight Training on Functional Capacity and Muscle Strength of Elderly People with Sarcopenia

Impact of therapeutic training on the functional capacity and muscular strength of older people with sarcopenia

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SUMMARY

Sarcopenia is a condition associated with aging, characterized by a progressive reduction in muscle strength and mass, which can compromise mobility, balance, functional capacity, and autonomy in older adults. In this context, therapeutic weight training presents itself as an intervention strategy capable of promoting individualized and progressive resistance stimuli, with the potential to minimize the functional effects resulting from muscle loss. This study aimed to analyze the impact of therapeutic weight training on the functional capacity and muscle strength of older adults with sarcopenia. This is a qualitative and descriptive literature review, developed from the analysis of 16 different references related to sarcopenia, aging, physiotherapy, resistance training, and training.

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The results showed a predominance of studies associating resistance training with the maintenance or improvement of muscle strength and functional capacity, highlighting its importance for the mobility and autonomy of older adults. The analyzed literature also shows that physiotherapy intervention should consider, in addition to strengthening, aspects such as balance, flexibility, coordination, and functional training. It is concluded that therapeutic weight training constitutes a relevant strategy in the management of sarcopenia when applied in an individualized, progressive manner and integrated with other exercise modalities, and can contribute to the improvement of muscle strength, functional capacity, safety during locomotion, and independence in older adults.

Keywords: Sarcopenia; Elderly; Therapeutic weight training; Physiotherapy.

ABSTRACT

Sarcopenia is a condition associated with aging, characterized by progressive reductions in strength and muscle mass, which can compromise mobility, balance, functional capacity, and autonomy in the elderly. In this context, therapeutic bodybuilding is an intervention strategy that can provide individualized, progressive resistance training and may help minimize the functional effects of muscle loss. The present study aimed to analyze the impact of therapeutic weight training on the functional capacity and muscle strength of older adults with sarcopenia. This literature review used a qualitative, descriptive approach and analyzed 16 references related to sarcopenia, aging, physiotherapy, resistance training, functional training, balance, mobility, gait, and fall prevention. The results showed a predominance of studies that associate resistance training with the maintenance or improvement of muscle strength and functional capacity, highlighting its importance for the mobility and autonomy of the elderly. The literature analyzed also shows that physical therapy intervention should consider, in addition to strengthening, aspects such as balance, flexibility, coordination, and functional training. It is concluded that therapeutic weight training is a relevant strategy in the management of sarcopenia when applied in an individualized, progressive, and integrated manner with other exercise modalities, and can contribute to improved muscle strength, functional capacity, safety during locomotion, and independence in the elderly.

Keywords: Sarcopenia; Elderly; Therapeutic bodybuilding; Physiotherapy

1 INTRODUCTION

Aging is accompanied by progressive changes in the musculoskeletal systems.
neuromotor and functional factors, capable of interfering with an individual's ability to perform activities.
Daily life with safety and independence. Although the challenges faced by the elderly are not
Unlike those observed in other phases of life, advancing age requires consideration of
individual structural and functional adaptations, associated with the progressive reduction of the capacity to
physiological response and functional reserve (De Amorim, 2022). These alterations can compromise
Strength, balance, mobility, and coordination, impacting autonomy and quality of life.
Among the most relevant functional changes are reduced muscle strength and impairment.
of balance and changes in gait pattern. Ferreira (2022) highlights that the progressive loss
These limitations are associated with increased difficulties in mobility and greater vulnerability.
adverse events, falls and injuries, in addition to contributing to the worsening of functional limitations.

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and chronic conditions related to aging. The gait of the elderly presents adaptations characteristic biomechanical features, described as "senile gait," which aim to increase stability and safety during locomotion. However, these adaptations may come at the cost of less Speed and efficiency of movement, including reduced step and stride length.

In this context, the loss of muscle strength takes on particular importance, as it interferes with the ability to support the body, control movements, and respond to functional demands. Among the Conditions related to this process include sarcopenia, characterized by progressive weight loss. loss of strength and muscle mass, accompanied by reduced physical performance. Sarcopenia can compromising simple activities such as getting up, walking, climbing stairs and transferring, increasing the functional dependence of the elderly.

The relationship between sarcopenia and falls is also a significant concern in the elderly population. Nunes et al. (2021) indicate that elderly people with sarcopenia have a higher risk of falls than those without the syndrome. Reduced strength in the lower limbs, associated with balance problems and Gait can compromise the ability to stabilize the body and hinder motor responses. Quick responses to imbalances. In this way, the preservation and recovery of muscle strength. These are fundamental components for maintaining the functionality and safety of the elderly.

Given this scenario, regular physical activity plays an important role in Preservation of functional capacity in aging. Physical stimulation contributes to the... maintaining muscle strength, mobility, and autonomy, promoting the performance of activities of daily living and reducing risk factors for falls (Duarte; Ramanho; Souza, 2025).

In addition to muscle strengthening, exercise programs can promote benefits to posture, to coordination and flexibility. Macedo (2025) highlights that performing general exercises can to promote increased flexibility in the upper and lower limbs, a relevant aspect for the Maintaining range of motion and ensuring proper execution of functional tasks.

Although different types of physical exercise are used in the prevention and treatment of In sarcopenia, there are still several possible interventions, and there is no absolute consensus on one. the only protocol capable of meeting the needs of all elderly people. Corrêa et al. (2021) emphasize the The importance of physical exercise in preventing or mitigating changes associated with The physiological process of aging demonstrates that physical activity is an important factor. Intervention strategy in the face of progressive functional losses.

In this context, therapeutic weight training presents itself as a relevant strategy, as it enables The performance of resistance exercises in an individualized, progressive, and controlled manner. The use Adjustable loads allow for targeted stimulation of the muscle groups involved in mobility. and in activities of daily living, promoting adaptations in terms of strength and performance.

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functional. For older adults with sarcopenia, this approach can represent an important tool.
Physiotherapeutic treatment, especially when combined with an individual assessment of limitations and progression.
appropriate loads and integration with balance, flexibility and training exercises.
functional.

The relevance of therapeutic weight training is therefore not limited to increasing strength or muscle mass.
muscular. Strength gain should be understood as a means of improving capacity.
functional, promote independence, increase safety in mobility and reduce limitations
imposed by sarcopenia. The possibility of adapting exercises to clinical and functional conditions.
The individual needs of each elderly person make this modality relevant for an individualized therapeutic approach.
Therefore, it becomes relevant to investigate the effects of therapeutic weight training on muscle strength.
and the functional capacity of elderly people with sarcopenia, considering that these variables are
related to autonomy, mobility, and the risk of falls. Thus, this study aims to
To analyze the impact of therapeutic resistance training on the functional capacity and muscle strength of elderly individuals.
with sarcopenia, seeking to understand its contribution to the preservation of independence and to
Promoting more active and functional aging.

2. THEORETICAL FRAMEWORK

2.1 Sarcopenia, Functional Capacity, and Therapeutic Strength Training in the Elderly

Sarcopenia is a syndrome characterized by the progressive and generalized loss of muscle mass and strength.
muscular, accompanied by a reduction in physical performance and functional capacity, constituting
one of the main changes related to musculoskeletal aging (De Fátima Luz and
Lima, 2026). Although it is associated with the natural aging process, its evolution can be
influenced by factors such as physical inactivity, chronic diseases, hormonal changes, processes
Inflammatory factors, oxidative stress, and reduced protein intake. Therefore, sarcopenia does not...
It is limited to a decrease in muscle mass, but it also compromises mobility, autonomy, and...
ability to perform activities of daily living.
Among the muscle changes associated with sarcopenia, the reduction in the number and size of muscles stands out.
of type II muscle fibers, which play an important role in force production and in
movements of greater intensity. The process is also related to the reduction of units.
Motor structures are responsible for controlling the force and precision of muscle contraction. According to
According to Fátima Luz and Lima (2026), the preservation of these units is fundamental to performance.
muscular, and regular physical exercise throughout life can help to mitigate

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Muscle loss associated with aging. In this context, maintaining muscle stimulation is important. Appropriate measures are important in both the prevention and intervention of functional deficits. associated with sarcopenia.

The progression of sarcopenia affects the muscles involved in body stabilization and in Locomotion. Among the muscle groups affected are the transversus abdominis and the multifidus. and the paravertebral muscles; in the lower limbs, the quadriceps, the calf muscles and the Glutes. Reduced muscle strength interferes with the ability to perform fundamental movements. such as getting up from a chair, climbing stairs, walking, maintaining balance and performing transfers. Oliveira and Vieira (2021) highlight that loss of strength may precede further reduction accentuated loss of muscle mass, contributing to motor imbalances, physical frailty, reduction functional performance and increased dependence.

The decrease in functional capacity is therefore one of the most significant consequences of Sarcopenia in the elderly. The progressive loss of strength in the lower limbs compromises the Body instability increases the difficulty of performing daily tasks, favoring the occurrence of functional limitations and falls. In this sense, the assessment and intervention on muscle strength They must be associated with the preservation of mobility, balance, coordination, and autonomy. Regular physical activity plays an important role in this process, since higher levels High levels of physical activity are associated with a lower risk of sarcopenia and better indicators. of muscle mass and function in older adults (Nogueira et al., 2023).

In this scenario, physiotherapy interventions play a relevant role in prevention and in... treatment of sarcopenia through resistance exercises, functional training, and exercises of Balance and multimodal programs. Teles and Roiz (2025) point out that different strategies Physiotherapeutic techniques can contribute to increased muscle strength and mobility, including by through interventions carried out in the home environment. This possibility is important for the elderly. with mobility difficulties or low participation in programs conducted in environments clinics or gyms.

Physiotherapeutic intervention is therefore not limited to the isolated strengthening of specific muscle groups. muscular. Exercises should be planned according to the functional needs of the elderly person. considering movements related to activities of daily living and seeking to recover or preserve functional independence. Lopes Correa et al. (2023) highlight the importance of the role of Physiotherapist in promoting muscle strengthening, improving quality of life and reducing of dependency, considering the individual holistically.

Among the most relevant strategies is resistance training, considered one of the key resources for combating the loss of strength and muscle mass resulting from

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aging. Bezerra et al. (2026) highlight that this type of training favors function and aging.
musculoskeletal structure, contributing to health, quality of life and maintenance of
functional capacity of the elderly. Braga (2024) also points to the reduction of muscle atrophy and the
Increased muscle cross-sectional area as an important response to training.
resisted. De Fátima Luz and Lima (2026), in turn, highlight that strength training can
to contribute to increased bone density and to the reduction of effects associated with sarcopenia.
In this context, therapeutic weight training stands out because it allows for the controlled application and
Progressive loads allow the training to be adapted to the individual conditions of the elderly person.
Unlike an approach focused on physical performance, its therapeutic application should consider
The functionality, limitations, safety, and specific goals of each individual.
possibility of controlling variables such as load, volume, intensity, number of repetitions, interval
recovery and range of motion allows the stimulus to be tailored to the elderly person's capabilities and
to promote gradual progression.
Resistance training can produce benefits even in older adults with significant disabilities.
functional impairment. Oliveira and Vieira (2021) point out that resistance exercise, including
In frail elderly individuals, it constitutes a relevant stimulus for muscle hypertrophy. It is recommended
that training should generally be carried out at least twice a week, respecting periods
Adequate recovery time between sessions. The muscle groups of the lower limbs should
The following deserve special attention: the knee and hip extensors, the knee flexors, the dorsiflexors.
and the plantar flexors, due to their direct role in mobility, balance, and prevention of
falls.
The selection of exercises should also take into account the muscles most used in daily activities.
daily, including glutes, quadriceps, pectorals, latissimus dorsi, abdominals, and deltoids. In this way,
Therapeutic weight training can go beyond the goal of increasing muscle strength and take on a function...
related to the recovery of functional independence. Sousa de Paiva, Tomé and Abreu (2025)
They emphasize that adherence to resistance exercises contributes to the preservation of functional mobility.
and the autonomy of the elderly, in addition to promoting flexibility, balance, coordination and agility.
Although resistance training forms the central axis of the intervention, its association with exercises
Flexibility and balance can enhance functional outcomes. Freire (2022) emphasizes that
The importance of including these components in programs aimed at the elderly population, since
that aging is associated with changes in joint mobility, postural control, and
The ability to respond to disturbances in balance. Balance exercises can be performed.
in a static or dynamic way and involve different stimuli of body coordination, turns
controlled, reduced visual stimuli, and tasks associated with manipulating objects.

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Flexibility should also be integrated into exercise programs designed for the elderly, contributing for maintaining range of motion and for more efficient execution of activities functional. Costa et al. (2025) highlight the use of resources such as mats, cushions, bands and benches are used to assist in performing the exercises and maintaining proper posture. In this way, The combination of strengthening, flexibility, and balance allows for a more effective approach. comprehensive functional capacity.

Another important aspect of physiotherapy intervention is the prevention of falls in the workplace. home-based care. The physiotherapist can play a role in identifying environmental factors that increase the risk. accident prevention, providing guidance on removing loose rugs, organizing electrical wires, and so on. improving lighting, installing grab bars in strategic locations, and using appropriate footwear. Ferreira (2022) highlights the importance of characteristics such as the sole. Anti-slip, firm buttress, and secure fastening system. These measures complement the Physical training helps reduce extrinsic factors associated with falls.

Although activities such as walking also offer benefits for the elderly population, because to contribute to maintaining adequate levels of physical activity, their role in the approach The diagnosis of sarcopenia should be understood as complementary. Nogueira et al. (2023) observed a There is an association between higher frequency of walking and a lower risk of sarcopenia. However, when the The goal is to promote specific gains in strength and muscle mass; resistance exercise plays a crucial role. It plays a central role, as it allows muscles to receive progressive overload stimuli, which are fundamental for neuromuscular and structural adaptations.

Therapeutic weight training, therefore, presents an alternative to address one of the main... Components of sarcopenia: a reduction in muscle strength. By promoting resistance training. Progressive and individualized training can contribute to increasing the ability to produce force. to improve lower limb performance, promote balance, and enhance capacity. perform functional activities. Its effects go beyond the muscular dimension, being reflected in mobility, autonomy, safety in carrying out daily activities, and quality of life. life.

Therefore, the use of therapeutic weight training as a physiotherapy intervention strategy should to be based on individualized assessment, appropriate progression of exercises and integration between strength, balance, flexibility, and functionality. The goal should be to transform the gain of Strength leads to greater functional capacity and independence. In this sense, resistance training... It represents an important therapeutic tool for minimizing the impacts of sarcopenia and to promote a more active, safe and functional aging process.

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3 METHODOLOGY

This study is characterized as a literature review, with a qualitative approach and character.
descriptive, developed with the objective of analyzing the available evidence regarding the impact of
Therapeutic weight training in functional capacity and muscle strength in elderly individuals with sarcopenia.
Choosing this method allowed us to gather and interpret scientific publications related to
aging, sarcopenia, resistance training, and physiotherapy interventions aimed at
elderly population.

For the purposes of this study, publications that presented a relationship with the subject were considered.
at least one of the following thematic areas: sarcopenia in the elderly; loss of strength and muscle mass;
functional capacity; mobility; balance; gait; fall prevention; geriatric physiotherapy;
Functional training; physical activity and resistance or weight training exercises were prioritized.
materials that would contribute to understanding the relationship between muscle strengthening and
preserving functionality during aging.

The literature review resulted in the selection of 16 distinct references, comprised of articles.
scientific papers, academic dissertations, and technical works. The publications analyzed covered different areas.
areas related to the topic, including physiotherapy, gerontology, physical training, rehabilitation,
Elderly health and resistance training. The selection process enabled the development of an analysis.
multidimensional, considering its repercussions on balance, mobility, and prevention of
falls, autonomy, and quality of life.

The analysis of the materials was carried out in a qualitative and interpretive manner. The references were
organized according to their relationship to the object of study. Then, the contents were grouped.
in thematic categories, including: (1) sarcopenia and aging; (2) muscle strength and
functional changes; (3) resistance training and weight training; (4) physiotherapy and rehabilitation; (5)
balance, mobility and fall prevention; and (6) autonomy and functional capacity.

The findings of the studies were compared and articulated with the research objective, in order to
to identify points of convergence regarding the benefits of resistance exercise and therapeutic weight training.
for elderly individuals with sarcopenia. The interpretation considered the effects related to muscle strength,
mobility, balance, functional performance and independence, which allowed us to establish a
relationship between muscle gains provided by training and its possible impact on
activities of daily living.

Since this is a literature review, no experimental procedures were performed.
direct interventions with human participants. Therefore, the results presented
They correspond to the interpretative synthesis of the evidence found in the selected references, without

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involve the collection of primary clinical data.

4. RESULTS AND DISCUSSION

The literature review used in this study gathered 16 distinct references, selected by exhibiting a direct or complementary relationship with sarcopenia, aging, muscle strength, Functional capacity and the use of physical and resistance exercises as intervention strategies. in elderly individuals. Of the set analyzed, 12 correspond to scientific articles published in journals, Two are academic dissertations and two are books or technical works. The largest concentration of publications It is related to the areas of physiotherapy, gerontology, physical education, resistance training, Functional rehabilitation and elderly health. A list of the references used is presented. in Table 1.

Table 1 – Research and works used in the analysis on therapeutic weight training, sarcopenia and functional capacity of elderly people

Author(s) Year	Type of study/work	Thematic area	Main contribution to the study
Corrêa et al. 2021	Article – review integrative	Physiotherapy and sarcopenia	Analyzes the effects of physiotherapy in elderly people with sarcopenia and highlights the physical exercise as a strategy prevention and treatment.
Nunes et al. 2021	Article scientific	Sarcopenia and geriatrics	Investigates factors associated with sarcopenia. in elderly people in the community and their relationship with functional limitations.
Oliveira and Vieira 2021	Article – Review bibliographic	Strengthening muscular and sarcopenia	It highlights the benefits of strengthening. muscle in elderly people with sarcopenia, including increased strength, hypertrophy muscular, improved mobility and functional capacity.
De Amorim 2022	Book/Work technique	Assessment functional capacity of the elderly	It addresses measures of physical performance and functional applications applicable to the elderly population.
Ferreira 2022	Article	Biomechanics,	Analyzes gait changes in the elderly and

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Author(s) Year	Type of study/work	Thematic area	Main contribution to the study
	scientific	march and prevention falls	strategies related to prevention falls.
Freire 2022	Dissertation	Exercise, balance and functionality	Evaluates sensorimotor exercises and their effects on proprioception, balance, Strength, mobility, and the risk of falls.
Braga 2024	Dissertation	Training resisted and adaptation muscular	Analyze the morphological changes, molecular and functional aspects associated with resistance training.
Lopes Correa et al. 2024	Article scientific	Physiotherapy and rehabilitation	Discusses physiotherapy rehabilitation. applied to sarcopenia in the elderly.
Duarte, Ramalho and Souza 2025	Article scientific	Training functional and aging	It addresses the use of training. functional for improving the quality of Life of the elderly.
Macedo 2025	Book/Work technique	Training functional	It presents the fundamentals and strategies of functional training applicable to elderly population.
Sousa de Paiva, Tomé and Abreu 2025	Article – Review bibliographic	Exercises resisted and sarcopenia	Analyzes the relationship between exercises. resisted, the maintenance of mobility Functionality and autonomy in older adults.
Teles and Roiz 2025	Article – Review bibliographic integrative	Physiotherapy and sarcopenia	Analyzes the role of physiotherapy in prevention and treatment of sarcopenia, including resistance and functional exercises and households.
Costa et al. 2025	Article scientific	Physical fitness and aging	It highlights the importance of evaluating health-related physical fitness in adults and the elderly.
From Fatima 2026	Article	Training: Analyzes the impact of resistance training.	

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Author(s) Year	Type of study/work	Thematic area	Main contribution to the study
Light and Lima	scientific	resisted and sarcopenia	in the management of sarcopenia in the elderly.
Calf and al. 2026	Article scientific	Training functional and independence	Analyzes the effects of training. functional aspects related to the independence of older adults.
Nogueira et 2023 al.	Article scientific	Physical activity, sarcopenia and falls	It relates physical activity and sedentary behavior increases the risk of Sarcopenia and fear of falling in the elderly.

Source: Prepared by the authors based on the references used in the study.

Analysis of the bibliographic collection demonstrates the predominance of studies focused on sarcopenia and to physical exercise, with emphasis on resistance training and physiotherapy interventions.
There is also evidence of research focused on functional capacity, balance, and...
Mobility, gait, and fall prevention are elements related to the consequences of loss of mobility.
Muscle strength in aging.
Among the studies analyzed, Oliveira and Vieira (2021), Sousa de Paiva, Tomé and Abreu (2025) and De Fátima Luz and Lima (2026) present a more direct relationship with the central axis of this research, by other studies, such as those addressing strengthening or resistance training applied to sarcopenia, have also been conducted.
Corrêa et al. (2021), Lopes Corrêa et al. (2024) and Teles and Roiz (2025) expand the analysis to
To address physiotherapy practice and different rehabilitation strategies.
The literature also presents a second axis related to functional capacity and safety of elderly. Ferreira (2022), Freire (2022), Nogueira et al. (2023) and Bezerra et al. (2026) contribute to Understanding the relationship between strength, balance, mobility, gait, risk of falls and functional independence. In this way, the studies analyzed allow us to understand that the Interventions for sarcopenia should be evaluated based on their effects on the individual's functionality.
Another aspect identified was the use of different exercise modalities. Although the Although resistance training is the primary resource associated with increased muscle strength, studies... They also include functional training, sensorimotor exercises, and balance exercises. flexibility exercises and general physical activity. This diversity indicates that the approach of The elderly population tends to be more effective when considering functionality broadly, using Muscle strengthening as one of the central components of the intervention.

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The results from the literature review indicate that sarcopenia is an important associated factor.
This refers to the reduction in functional capacity of the elderly, due to the progressive loss of muscle strength.
The reduction compromises fundamental movements for independence, such as standing up, walking,
Climbing stairs, performing transfers, and maintaining balance. In the analyzed reference frame, the loss of strength
Lower limb dysfunction is among the most relevant factors in explaining the reduction of
mobility and increased functional dependence.
The relationship between muscle strength and functionality is important because aging modifies the
The ability to use these muscles in motor tasks. In this sense, the intervention should aim to...
to produce sufficient strength so that the elderly person can use it in functional situations. Oliveira and Vieira
(2021) highlight the importance of muscle strengthening in older adults with sarcopenia, while
Sousa de Paiva, Tomé and Abreu (2025) relate resistance exercises to the maintenance of
functional mobility and autonomy.

The findings also support the relevance of resistance training as a central component of
Intervention. The possibility of controlling load, volume, intensity, repetitions, and periods of
Recovery allows for individualizing exercise according to the functional condition of the elderly person. This
This characteristic differentiates therapeutic weight training from a recreational or occupational activity.
performance, since the therapeutic goal is to use progressive overload to promote
Muscular and functional adaptations compatible with individual needs. The individual
The analyzed reference highlights that therapeutic weight training must consider limitations and safety.
and the specific goals of each person.
The literature reviewed also demonstrates that the benefits of resistance training are not limited to
to hypertrophy. Increased lower limb strength has direct implications for the ability to
Walking, performing transfers, and maintaining balance. In this way, therapeutic weight training
This can contribute to a chain of functional benefits: resisted stimulation promotes adaptations.
muscular adaptations; these adaptations increase the capacity to produce force; the increase in strength improves
The execution of functional tasks; and functional improvement can promote greater autonomy and safety.
in everyday activities.

This understanding is reinforced by the observed relationship between sarcopenia and falls. Nunes et al.
(2021) identify sarcopenia as a condition associated with increased vulnerability among older adults,
while Nogueira et al. (2023) relate physical activity levels to the risk of sarcopenia and to
Fear of falling. Reduced strength, when associated with changes in balance and gait, can
to hinder the execution of rapid motor responses in unstable situations. Therefore, the
Muscle strengthening should also be understood as a functional protection strategy.
when directed at the muscles involved in support and locomotion.

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Changes in gait are another important aspect in interpreting the results. Ferreira (2022) describes characteristic changes in the gait of the elderly, such as a reduction in length of steps and speed, related to adaptive strategies aimed at achieving greater stability. However, a slower and less efficient gear can also represent a functional limitation. In this context, strengthening the muscles of the lower limbs can to promote greater control during locomotion and improve the individual's ability to perform tasks that require body support and movement.

The analysis of the studies also shows that physiotherapy plays a strategic role in intervention on sarcopenia. Corrêa et al. (2021), Lopes Corrêa et al. (2024) and Teles and Roiz (2025) They point to different possibilities for physiotherapy intervention, including resistance exercises, Functional training, balance exercises, and home-based interventions. This perspective is... This is important because sarcopenia presents with distinct manifestations among individuals and cannot be... The intervention is managed through a strict protocol. It must be tailored to the clinical conditions. functional and environmental aspects of the elderly.

Another relevant finding is the need to integrate strength training with other capabilities. physical. Although therapeutic weight training is the main focus of this study, the work Analysis indicates that balance, flexibility, coordination, and functional training also... influence the ability to perform daily activities. Freire (2022), for example, addresses sensorimotor exercises related to proprioception, balance, muscle strength, and Functional mobility and the risk of falls. Duarte, Ramalho and Souza (2025) and Bezerra et al. (2026) They also broaden the understanding of the contribution of functional training to quality of life. and the independence of the elderly.

This integration allows us to understand functional capacity as a multidimensional phenomenon. An elderly person may exhibit increased muscle strength and still remain limited if... There are significant deficits in balance, mobility, coordination, or range of motion. For this reason, the results from the literature favor an approach in which muscle strengthening... be associated with functional and balance exercises. The analyzed framework supports this integration. between strength, flexibility, balance and functionality.

General physical activity also appears to be a protective factor. Nogueira et al. (2023) Higher levels of physical activity are linked to better indicators of sarcopenia and risk. of falls. However, the results analyzed allow us to establish an important distinction: Physical activity and resistance training are not equivalent concepts. The general practice of activity Physical activity contributes to maintaining an active lifestyle, while resistance training It allows for the application of specific and progressive overload, a relevant characteristic when the

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The goal is to increase muscle strength.

In this sense, therapeutic weight training presents an important methodological advantage:
possibility of controlling the stimulus applied to the muscle and increasing the demand as needed.
Individual adaptation. This characteristic is relevant for elderly individuals with sarcopenia, for whom the
The intensity of the exercise should be compatible with the level of strength, functional capacity, and...
clinical conditions.

The results also indicate that autonomy should be considered one of the main outcomes of
intervention. Increased muscle strength has clinical relevance because it can translate into greater
ability to perform activities of daily living. Sousa de Paiva, Tomé and Abreu (2025) associate the
Adherence to resistance exercises contributes to the preservation of functional mobility and autonomy, while
Bezerra et al. (2026) emphasize the relationship between functional training and the independence of older adults.
Therefore, the effectiveness of therapeutic weight training should be evaluated using indicators.
muscular issues and their impact on functionality.

The analysis of the selected works also shows that the intervention needs to be individualized.
The differences between elderly people regarding the degree of sarcopenia, strength, balance, mobility, presence of
Chronic illnesses and the ability to perform activities of daily living prevent a single strategy from working.
can be applied indiscriminately. Therapeutic weight training allows for greater flexibility by enabling
The suitability of the load and characteristics of the exercises to the needs of each individual.

Finally, the results from the literature support the hypothesis that therapeutic weight training may have
positive impact on muscle strength and functional capacity in elderly individuals with sarcopenia. However,
The studies analyzed also show that their effects should be understood within a broader context.
A multidimensional approach, in which strengthening is linked to mobility, balance, and...
Flexibility, coordination, and functional training. Therefore, therapeutic weight training should be...
understood as an intervention capable of contributing to the recovery of functionality, the reduction
dependency and maintaining autonomy in old age.

In general, the results found converge on the understanding that strengthening
Progressive and individualized muscle training is one of the main resources for dealing with...
functional consequences of sarcopenia. The literature reviewed points to benefits related to strength,
mobility, balance, functional performance and independence, reinforcing the relevance of
Therapeutic weight training as a physiotherapy resource in the care of sarcopenic elderly individuals.

FINAL CONSIDERATIONS

Analysis of the literature revealed that sarcopenia is an important associated condition.

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due to aging, characterized by a reduction in muscle strength and mass, with repercussions
significant improvements in mobility, balance, functional capacity, and autonomy in older adults.
Progressive loss of strength in the lower limbs can make it difficult to perform activities.
daily activities can increase vulnerability to functional limitations and falls.
The studies analyzed indicate that resistance training and therapeutic weight training constitute
Relevant strategies for addressing these changes, as they enable the application
progressive and individualized stimuli capable of promoting muscular adaptations and
functional. The identified benefits are not limited to increased strength or muscle mass,
which can affect mobility, balance, the ability to perform transfers, gait and
Performing activities of daily living.
The literature also demonstrates that physiotherapy intervention should go beyond strengthening exercises.
Isolated muscle training. The combination of therapeutic weight training, balance exercises, flexibility,
Coordination and functional training allows for a more comprehensive approach to ability.
Functional independence in the elderly. This integration is important because functional independence depends on...
interaction between different physical abilities, not just muscular strength.
Another aspect highlighted is the need for individualization and progression in training.
differences exist among older adults regarding the degree of sarcopenia, functional capacity, strength,
Balance, mobility, and clinical conditions make the application of a single protocol unsuitable.
Therapeutic weight training has an advantage in this regard because it allows for control of the loads, of
volume, intensity, number of repetitions, and recovery periods, enabling
To tailor the stimulus to the characteristics and goals of each individual.
Based on the studies analyzed, it can be concluded that therapeutic weight training can be considered
positive for improving muscle strength and functional capacity in elderly people with sarcopenia,
which can contribute to preserving autonomy, reducing dependence, and increasing security.
in carrying out daily activities. The literature reviewed therefore supports its use as
An important physiotherapy resource in the management of sarcopenia when included in an approach.
multidimensional and individualized.

Finally, it should be noted that the results of this research must be interpreted considering their nature.
bibliographical. Although there is convergence among studies regarding the importance of exercise
Despite the resistance, the diversity of strategies and characteristics of the elderly analyzed highlights the need
of new research investigating specific therapeutic strength training protocols, different
Intensity levels and their effects on objective indicators of strength and functional capacity.
In this way, future investigations may contribute to the improvement of strategies.
Physiotherapeutic techniques aimed at the prevention and treatment of sarcopenia, as well as for the promotion

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for a more active, safe and independent aging process.

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