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Physical therapy in the prevention of sarcopenia in women over 40: a critical narrative review on physical-functional assessment and therapeutic exercise.

Physiotherapy in the prevention of sarcopenia in women aged 40 years and older: a critical narrative review of physical and functional assessment and therapeutic exercise

Physiotherapy in the prevention of sarcopenia in women over 40 years old: a critical narrative review on physical-functional evaluation and therapeutic exercise

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SUMMARY

Middle age and the menopausal transition are relevant periods for preserving female musculoskeletal reserves, although 40 years of age does not represent a diagnostic cutoff point for sarcopenia. The objective of this critical narrative review, supported by a structured search, was to analyze the effects and limitations of exercise-based interventions on strength, muscle mass or quality, and physical performance in middle-aged and postmenopausal women, examining how physical-functional assessment and therapeutic exercise can underpin physiotherapy intervention.

PubMed/MEDLINE and PEDro were searched on August 20, 2026, for publications between January 2015 and the date of the search. Seventeen intervention publications directly related to the outcomes of interest were selected; consensus statements, guidelines, and systematic reviews were used for contextualization. The gain in strength showed the most consistent direction, while the responses

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Muscle mass gains varied according to volume, intensity, duration, initial condition, and measurement method. Resistance, functional, sensorimotor, and impact strength programs were associated with improvements in components of physical performance. However, active comparators, small sample sizes, loss to follow-up, co-interventions, and incomplete description of the responsible professional limited causal and professional attribution. One trial reported supervision by a physiotherapist, but none compared professional categories or assessed the incidence of new sarcopenia diagnoses. It is concluded that therapeutic exercise may favor the preservation of sarcopenia-related markers, provided it is integrated with physical-functional assessment, individualization, monitoring, and reassessment. The effectiveness specifically attributable to physiotherapy and the prevention of incidence remain undemonstrated.

Keywords: Sarcopenia; Women's Health; Physiotherapy; Exercise Therapy; Resistance Training.

ABSTRACT

Midlife and the menopausal transition are relevant periods for preserving women's musculoskeletal reserve, although age 40 is not a diagnostic threshold for sarcopenia. This critical narrative review, supported by a structured search, examined the effects and limitations of exercise-based interventions on strength, muscle mass or quality, and physical performance in midlife and postmenopausal women, assessing how physical and functional evaluation and therapeutic exercise may inform physiotherapy practice. PubMed/MEDLINE and PEDro were searched on August 20, 2026, for publications from January 2015 through the search date. Seventeen intervention publications directly related to the outcomes of interest were selected; consensus statements, guidelines, and systematic reviews provided context. Strength gains showed the most consistent direction, whereas muscle-mass responses varied according to volume, intensity, duration, baseline status, and measurement method.

Resistance, functional, sensorimotor, and strength-and-impact programs were associated with improvements in components of physical performance. However, active comparators, small samples, attrition, co-interventions, and incomplete reporting of the intervention provider limited causal and profession-specific attribution. One trial explicitly reported physiotherapist supervision, but no study compared professional groups or measured incident sarcopenia. Therapeutic exercise may help preserve sarcopenia-related markers when integrated with physical and functional assessment, individualization, monitoring, and reassessment. Profession-specific effectiveness and prevention of incident sarcopenia remain unproven.

Keywords: Sarcopenia; Women's Health; Physiotherapy; Exercise Therapy; Resistance Training.

1 INTRODUCTION

Sarcopenia is a progressive musculoskeletal condition characterized by a combination of

Changes in muscle strength and mass. The revised European consensus, EWGSOP2, considers the decrease

Strength is the main indicator of probable sarcopenia, utilizing low quantity or quality of muscle.

to confirm the diagnosis and associates poor physical performance with greater severity. The definition

The conceptual framework of the Global Leadership Initiative on Sarcopenia also requires the combined presence of

Reduced muscle mass and strength, which prevents isolated changes in body composition.

be presented as a diagnosis (Cruz-Jentoft et al., 2019; Kirk et al., 2024).

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The condition relates to reduced mobility, disability, falls, fractures, and loss of autonomy, especially in old age. However, musculoskeletal reserve is built and modified throughout the course of life. In a preventative context, preserving strength, Functional capacity and daily activity are different from indiscriminately screening women. adults or claim that an intervention reduced the incidence of sarcopenia without new cases. diagnoses have been measured.

In women, middle age often coincides with the menopausal transition. Menopause Natural onset usually occurs between the ages of 45 and 55 and is recognized after 12 consecutive months without... Menstruation due to another cause; it does not correspond to a fixed age nor does it, in itself, constitute a disease. (World Health Organization, 2024). In the SWAN cohort, lean mass began to decline during the transition, while fat mass increased more rapidly (Greendale et al., 2019). In women Finnish women followed longitudinally, the progression from peri- to post-menopause was associated with- The reduction in lean and muscle mass, and increased physical activity, was associated with better maintenance. of these components (Juppi et al., 2020).

The recommendations of the International Menopause Society include musculoskeletal health and Sarcopenia is among the relevant topics in middle age, and they advocate for an individualized approach based on... in risks, symptoms and lifestyle (Panay et al., 2025). In this article, the expression 'from the age of 40 onwards' is used. 'years' is used as a pragmatic benchmark for health promotion, and not as a diagnostic criterion for Sarcopenia, climacteric, or menopause. The evidence produced specifically at the beginning of this range. The age range is more limited than that available for women after menopause.

Exercise is one of the main non-pharmacological interventions for preserving function. musculoskeletal. The World Health Organization recommends strengthening the main musculoskeletal systems. Muscle groups are worked on at least two days a week, in addition to aerobic activity and reducing... sedentary behavior, with adaptation to health status and individual capacity (World (Health Organization, 2020). In postmenopausal women, systematic reviews indicate Benefits of resistance training and combined modalities on strength and body composition. and performance, but they highlight the heterogeneity of protocols, populations, and measurement methods. (Khalafi et al., 2023; Tan et al., 2023; González-Gálvez; Moreno-Torres; Vaquero-Cristóbal, 2024).

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In physiotherapy, therapeutic exercise is integrated into the physical-functional assessment and diagnosis.
physiotherapeutic, to the definition of goals, to adaptation in the face of pain or dysfunction, to the monitoring of
response and reassessment. Decree-Law No. 938/1969 assigns to the physiotherapist the execution of methods
and techniques designed to restore, develop, and maintain physical capacity. COFFITO Resolution
Decree No. 80/1987 explicitly addresses assessment, prescription, and reassessment, and COFFITO Ruling No. 497/2016
recognizes functional training as a preventive and therapeutic resource in physiotherapy, without
declare it an exclusive technique (Brazil, 1969; Federal Council of Physiotherapy and Occupational Therapy,
1987, 2016).

The regulatory framework defines professional competence, but does not demonstrate effectiveness. One modality
This can be applied to physiotherapy practice even when the article does not identify the professional who...
It led to this; in this case, the study supports the modality, and not an effect specifically attributable to it.
physiotherapy. Given this distinction, the objective was to critically analyze the effects of interventions.
based on exercise studies on markers related to sarcopenia in women from the age of 40
and discuss how physical-functional assessment and therapeutic exercise can promote their
Preservation in physiotherapy practice, without causal or professional extrapolation.

2 METHODOLOGY

A critical narrative review supported by a structured literature search was conducted. This design
It was chosen because the central purpose was to examine the consistency between drawings, comparators,
results and possibilities for physiotherapeutic application, and not to calculate a combined estimate of
to have an effect or to declare exhaustive coverage of the literature. For this reason, the manuscript does not use
The PRISMA flowchart does not even show counts of deleted full texts without a record.
verifiable documentation.

The guiding question was: what effects and limitations are reported by intervention-based studies?
in exercise on muscle mass or quality, strength, power, and physical performance in women
In middle age and after menopause, what implications can be drawn for physiotherapy without it?
To attribute effects to the profession that have not been directly tested?

- Sources of information and research

The searches were conducted in PubMed/MEDLINE and the Physiotherapy Evidence Database (PEDro).
Considering publications from January 1, 2015, until the date of the search. Articles were accepted in
Portuguese, English, or Spanish. Guidelines, consensus statements, and systematic reviews were consulted.
Separately for conceptual definition and contextualization, but they were not treated as studies.
intervention of the main synthesis.

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In PubMed/MEDLINE, terms relating to menopause or middle age were combined.
sarcopenia or muscular and functional outcomes, exercise, physiotherapy or rehabilitation, and population
female. In PEDro, three searches were performed in the title/abstract field: 'postmenopausal resistance
training', 'postmenopausal therapeutic exercise' and 'middle aged women resistance training', with
publications since 2015. Table 1 presents the expressions used. In accordance with the
In terms of narrative design, searches were employed to locate and contextualize the evidence.
relevant, without presenting counts as a systematic selection flow.

Table 1 – Bibliographic search strategies

Source	**Expression and delimitation**
PubMed/MEDLINE (menopause OR menopausal OR postmenopausal OR perimenopausal OR middle-aged) AND (sarcopenia OR muscle mass OR muscle strength OR physical performance OR functional performance) AND (exercise OR resistance training OR therapeutic exercise OR physiotherapy OR physical therapy OR rehabilitation) AND (women (OR female); period: 2015-2026	
PEDro 1	Postmenopausal resistance training; match in title/abstract; publishing since 2015
Peter 2	postmenopausal therapeutic exercise; correspondence in Title/Abstract; Published since 2015
PEDro 3	middle-aged women resistance training; correspondence in Title/Abstract; Published since 2015

Source: own elaboration. Searches carried out on August 20, 2026.

- Selection and critical interpretation

Publications on intervention with exclusively female samples were selected or
separable results for women, middle-aged or postmenopausal population and at least one
outcome of strength, power, muscle mass or quality, balance, mobility or performance.
Physical studies were excluded. Studies that were exclusively nutritional, pharmacological, or hormonal were also excluded.
Combined interventions in which the effect of exercise could not be interpreted separately.
The essay by Li et al. (2022), present in the previous version, was removed because it combined Baduanjin,
Herbal decoction and supplementation in women with osteoporosis, contradicting this criterion.

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Seventeen intervention publications were selected for critical synthesis. For each one, [details were provided].
examined population, design, comparator, duration, outcomes, losses, adverse events,
Co-interventions, registration and description by the responsible professional. The strength of the interpretation was adjusted.
Regarding the design: comparisons between two active programs were used to discuss differences between
modalities; intragroup results were not presented as controlled effects; and studies
Before-and-after comparisons without an exercise group were deemed incapable of establishing causality.
The aggregate quality score was not calculated. The evaluation focused on specific domains.
Interpretable—randomization, comparator, losses, between-groups analysis, co-interventions and
sample applicability —, avoiding converting total scores into quality labels. The selection
The data extraction was performed by a reviewer, which was considered a limitation.

- Synthesis and ethical aspects

Due to clinical and methodological heterogeneity, a narrative synthesis organized in force was carried out.
and muscle mass; physical performance and balance; dosage, safety and continuity; and implications for
Physiotherapy. The applicability of an intervention to the physiotherapy scope was kept separate.
Direct evidence that a physiotherapist conducted the treatment.
Only previously published secondary data was used, without recruitment or intervention.
Direct access to medical records or processing of personally identifiable information. Due to these characteristics, the
study was not submitted to the Research Ethics Committee.

3. RESULTS AND DISCUSSION

The 17 publications were released between 2015 and 2026. The majority of participants were postmenopausal women;
Only Trezise et al. (2025) explicitly included participants aged 40 to 60, and Whitman et al.
(2026), women aged 45 to 60 years in pre- or early post-menopause. Razian et al. (2024) studied
women with an average age of 59.4 years. Therefore, the expression 'middle age' adequately describes part
of the whole, but evidence directly produced in the early 40s is scarce.
The studies differed in terms of comparators and inferential capacity. Some used a control.
without training or waiting list; others compared active loads, volumes, or formats. Gözütok
Eyuboglu (2026) used active home exercise and not an inert control. In Trezise's study
et al. (2025), all participants performed exercise after experimental step reduction; a
The randomization compared fortified milk and a placebo, making it impossible to isolate exercise from the cause.
spontaneous recovery, resumption of mobility and time.

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Table 2 – Studies with controls lacking training, with waiting lists or reduced activity.

Study/Sample	**Intervention and comparison**	**Main finding**	**Limit interpretative**
Nicholson et al. (2015) 50 women, 56-75 years	Low load and repetitions very high by six months versus absence training.	Strength increased; soft tissue mass fat-free It changed. Three withdrawals due to injury or fear.	Low load not guarantees hypertrophy nor does it eliminate the need of control fatigue and tolerance.
Nunes et al. (2016) 32 post-menopausal	Training at 70% 1RM, three times/week, 16 weeks; three series, six series or control.	Both volumes They grew in strength; There was no advantage. uniform of the biggest volume.	Small sample; sustains adaptation initial, not dose universal.
Neves et al. (2017) 64 randomized; 50 analyzed	Functional circuit by 16 weeks versus lack of training.	Strength improvements, coordination, agility, fitness aerobics and composition bodily.	The loss of 14 participants must be considered to the interpret the effects.
Birth of Oliveira-Junior and al. (2022) 58 post-menopausal	Three or six series for lower limbs 12 weeks versus control.	The force increased with the two volumes; six series favored leg hypertrophy.	The dose for strength is not It was identical to the dose. for hypertrophy.

Table 2 – continued

Study/Sample	**Intervention and comparison**	**Main finding**	**Limit interpretative**
Razian et al. (2024)	Unilateral training sensorimotor and	Ipsilateral adaptations and contralateral of	Sample without painful condition;

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Study/Sample	**Intervention and comparison**	**Main finding**	**Limit interpretative**
39 women; 59.4 ± 5.4 years	resisted for 12 weeks versus control.	strength and balance varied according to trained member.	no supports allegations on analgesia or protection tissue.
Pan, Krasowska and Ossowski (2025) 71 women, 60-79 years old	Walk Nordic interval or strength training, three times a week, 12 weeks, versus control.	Strength improvements and mobility, with differences between programs.	Allocation almost randomized put location, record retrospective and absence of resolution of incidence.
Thorell et al. (2026) 65 randomized; 44 with resonance	Resistance training supervised by 15 weeks versus low maintenance activity.	Volume muscular presented favorable comparison between groups; strength increased in the group trained.	The force was measured. only in the group of intervention and not constitutes effect controlled.
Whitman et al. (2026) 40 women, 45-60 years	Heavy force and impact for nine months versus waiting list.	Mass difference Total lean mass of 0.90 kg (95% CI 0.08-1.72) in addition to strength and power.	Feasibility study small; estimates must to be confirmed in larger samples.

Source: own elaboration based on the cited publications. 1RM: one repetition maximum; 95% CI: 95% confidence interval.

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Table 3 – Studies with active comparators, before-after design, or co-interventions

Study/Sample	**Intervention and comparison**	**Main finding**	**Limit interpretative**
Martins et al. (2018) 16 post-menopausal	Training intense with body weight versus program aerobic and resistance training, 12 weeks.	Both improved muscle index and walking; strength increased in the program combined.	Active comparison and sample very small; does not estimate effect versus absence of exercise.
Watson et al. (2018) 101 with low bone mass	Strength and impact >85% 1RM versus exercise low household intensity, eight months.	Strength and tests functional They improved; he was an event was reported mild adverse effect.	Participants selected and supervised; not generalize high load indiscriminately.
Dias et al. (2020) 66 women	Grouped series versus traditional method, 12 weeks.	The two methods improved strength and function; there was none interaction group-time.	It maintains equivalence. between active formats, ineffectiveness against No exercise.
Carneiro et al. (2022) 29 post-menopausal	Low load near Failure versus high load.	Low load favored lean mass of legs; strength and performances were similar.	Comparison between loads; possible sampling relationship with the 2023 publication This should be considered.
Carneiro et al. (2023) 24 post-menopausal	Low-to-high transition versus high-low load, 24 weeks.	To the sequences produced gains without superiority global; some tests favored loads larger.	Active comparison and possible overlap of cohort with study previous.

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Study/Sample	**Intervention and comparison**	**Main finding**	**Limit interpretative**
Dias et al. (2024) 45 randomized; 26 analyzed	Minimum dose for four weeks versus lectures and stretching.	Group-time interaction significant node bench press; leg press improved just within group; non-function presented effect controlled.	Loss sample high and lasting short; do not assign controlled effect to leg press.
Lee et al. (2025) 34 with osteosarcopenia	Resisted supervised versus exercise home active; support similar nutritional profile, 24 weeks.	Initial advantages in muscle index and grip decreased next.	Active comparator and co-interventions shared limit allocation exclusive.
Trezise et al. (2025) 83 in the reduction of steps; 67 they completed the program	Fourteen days of step reduction followed by 12 weeks of exercise; milk fortified versus placebo.	Scoreboards worsened after inactivity and improved during the later period.	Without a group, without exercise in the phase of recovery, it is not it is possible to state that the exercise, in isolation, reversed the losses.
Gözütok and Eyuboglu (2026) 40 women, 50-65 years old	Exercise functional intensive supervised by physiotherapist versus program home Active, eight weeks.	SPPB, march, sit and lifting and dual task favored the program intense; isolated equilibrium not It differed.	Small sample, active comparator, retrospective record and absence of following prolonged.

Source: own elaboration based on the cited publications. SPPB: Short Physical Performance Battery.

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- Strength and muscle mass

The gain in strength showed the most consistent direction, but the interpretation depended on...
comparator. Nunes et al. (2016) and Nascimento de Oliveira-Júnior et al. (2022) showed that
Moderate to higher volumes can improve strength, while the highest volume has shown...
A clearer advantage for hypertrophy. Carneiro et al. (2022) observed an increase in lean mass of
Legs with low load close to failure, without overall superiority in strength and performance. In 24
Over several weeks, distinct sequences of load transitions produced comparable gains, with advantages.
point loads for larger loads (Carneiro et al., 2023).

These results do not establish a single optimal dose. Lower doses may produce adaptations.
when the effort and volume are sufficient, but may require many repetitions and generate fatigue.
considerable. Nicholson et al. (2015) observed strength gain without modification of tissue mass.
fat-free muscle after six months of low load and very high repetitions; three participants
They gave up due to injury or fear of injury. Therefore, the expression 'low load' should not be confused.
with no risk or guarantee of tolerability.

High-intensity protocols also require contextual interpretation. In LIFTMOR, strength and
Function improved with strength and impact training above 85% of 1RM in women with
Low bone mass, under selection and supervision, with a mild adverse event (Watson et al., 2018). No
STOP-EM, the estimated difference in total lean mass was 0.90 kg, with a confidence interval.
extensive, in a feasibility trial with 40 women (Whitman et al., 2026). These data support
viability under controlled conditions, not indiscriminate prescription.

In the minimal dose trial, 45 participants were randomized, but only 26 were included.
Analysis: The group-time interaction favored bench press training; the increase in leg press was...
within the group and did not demonstrate controlled superiority. Functional tests also did not
They showed significant interaction (Dias et al., 2024). Thus, four weeks can produce
Specific strength adaptation was observed, but the study did not demonstrate generalized functional improvement.
Thorell et al. (2026) reported an increase in muscle volume compared to the low group.
Activity was assessed, while strength was only evaluated in the trained participants. The volume result
Allows for controlled interpretation; the force must be described as intragroup change. Taken together,
Muscle mass responded less uniformly than strength, probably because
Differences in dosage, duration, diet, initial state, and measurement method.

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- Physical performance, balance and continuity

Multicomponent interventions achieved outcomes beyond isolated strength. Neves et al. (2017)
They observed improvements in coordination, agility, aerobic fitness, and body composition after
functional circuit, although 14 of the 64 randomized women did not complete the study. Pan,
Krasowska and Ossowski (2025) reported improvements after interval Nordic walking and training.
strength in women aged 60 to 79 without sarcopenia; near-randomized geographic allocation and the
Retrospective records reduce causal confidence.

Gözütok and Eyuboglu (2026) compared high-intensity functional exercise with a program
Active home-based intervention. The supervised intervention improved the total SPPB score, gait, and sitting ability.
and lifting and dual-tasking, but it did not produce a difference between groups in isolated equilibrium. The article
It states that the sessions were supervised by an experienced physiotherapist. That is the link.
This is the clearest direct professional profile in the group, but it does not constitute a comparison between professions.

The study by Razian et al. (2024) demonstrated cross-adaptation after unilateral training in
Middle-aged women. This finding may inform exercise selection when there is a limitation.
unilateral, but the trial did not investigate patients with pain or injury; therefore, it does not support the claims.
for analgesia, tissue protection, or safety in specific clinical conditions.

The abrupt reduction in activity deserves attention, but causality needs to be preserved. Trezise et
al. (2025) observed a worsening of markers after 14 days of step reduction and recovery during
12 subsequent weeks. All participants completed the exercise program, and the
Randomization evaluated fortified milk versus placebo. Therefore, it is not possible to separate the effect of
Training for the resumption of normal mobility, time, and other changes. The study was
funded by Fonterra and a public-private partnership, and a conflict of interest was declared.
institutional; this information should accompany your interpretation.

A frequency of two or three sessions per week was common, but should not be turned into a rule.
universal. The dose depends on the objective, experience, tolerance, comorbidities,
Recovery and the possibility of continuity. Comparisons between grouped and traditional series.
They suggest that the organization of intervals can be individualized, as both formats
produced improvements without interaction between groups (Dias et al., 2020).

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- Implications for physiotherapy

The evidence supports exercise modalities that can be integrated into physiotherapy care.
but they do not demonstrate that all the results were produced by physiotherapists. With the exception of
In the essay by Gözütok and Eyuboglu (2026), the responsible professional category was absent, generic, or
insufficiently described. The conclusion must therefore distinguish three levels: effectiveness of the modality
of exercise; applicability to the physiotherapeutic scope; and effectiveness specifically attributable to
profession. Only the first two find relatively consistent support.

The assessment may include a history of activity and inactivity, symptoms, falls, comorbidities,
medications and barriers, accompanied by strength and performance measures compatible with the
Clinical purpose. The EWGSOP2 prioritizes strength, muscle quantity or quality, and performance.
Physical therapy is used in diagnosis and severity classification, while the ICFSR guideline recommends...
screening followed by appropriate evaluation when there is suspicion (Cruz-Jentoft et al., 2019; Dent et
(al., 2018). Instruments such as grip strength, sit-to-stand test, gait speed, Timed Up
and Go and SPPB can be selected according to context, availability, and objective; none
A single instrument should be presented as a universal diagnostic tool.

The prescription should link the type of training and dosage to the primary outcome. Resistance training.
Progressive training is relevant when the goal involves strength and muscle mass; functional exercises,
Balance, gait, dual-task, and power can be added when the limitation involves
Performance. Progression can modify load, sets, repetitions, range of motion, speed,
complexity and support, always guided by the observed response. Studies have not validated a
Single reassessment interval; repeat measurements should be scheduled according to the duration of the
plan, clinical stability, and the ability to detect change.

Monitoring includes technique, effort, symptoms, recovery, adherence, and adverse events.
The formulation derives from safety principles and the limits observed in the tests, not from a
Validated universal protocol. Clinical changes outside the scope of the exercise or that indicate
The need for investigation should motivate adaptation or referral according to judgment.
professional and applicable care standards.

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Table 4 – Summary of implications for physiotherapy practice

Component: Substantiated or plausible conduct		**Limit that should accompany the application**
Assessment	Combine clinical history and activity with measures of force and performance; use criteria recognized diagnoses when if there is suspicion.	The choice of instruments It depends on the context; isolated test. not universally confirmed sarcopenia.
Planning: Define	measurable goals for strength, function, balance, mobility or daily activity.	Do not confuse improvement with marker with prevention proven by new diagnoses.
Exercise therapeutic	Select progressive resistance and functional components as per deficits, objectives, tolerance and preferences.	There is no load, volume or sustained single frequency for all women.
Monitoring: Tracking	techniques. effort, symptoms, recovery, adherence and adverse events.	Safety observed in samples selected no authorizes indiscriminate generalization.
Revaluation	Repeat relevant measures in moment capable of detecting change and guide progression or review of flat.	The tests did not validate the universal range from four to 12 weeks.
Continuity: Promoting	autonomy and maintenance. of the activity, with transition compatible with risk and capacity.	The evidence did not compare physiotherapy with other professions nor did it demonstrate superiority. professional.

Source: Interpretive synthesis by the authors based on the evidence discussed; does not constitute a protocol. Clinically validated.

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- Limitations of the evidence and of this review.

The evidence often presents small sample sizes, short durations across multiple trials, and losses. after randomization, active comparators, protocol heterogeneity, and limited baseline data middle age. Some publications used specific populations, such as osteosarcopenia, low Bone mass or metabolic risk limits generalization to asymptomatic women.

No study has assessed the incidence of sarcopenia as a primary outcome, and none have compared Care provided by a physiotherapist with intervention conducted by another profession. In several In the articles, the responsible professional was not even informed. There is also the possibility that partial overlap between the publications of Carneiro et al. (2022, 2023), which shared authors, environment and initial loading schemes; without confirmation of cohort independence, the results They should not be counted as completely independent evidence.

This review was limited to PubMed/MEDLINE and PEDro, used single-reviewer selection, and adopted Narrative synthesis without formal evaluation by risk of bias domains. Search by title and abstract. It may have failed to retrieve studies with different terminology. Consequently, the manuscript It offers critical analysis and clinical applicability, but does not intend to provide an exhaustive estimate of effect or definitive classification of the certainty of the evidence.

FINAL CONSIDERATIONS

The publications analyzed suggest that interventions based on resistance training, exercises Functional, sensorimotor components and force and impact programs can promote preservation of strength and aspects of physical performance in middle-aged and postpartum women menopause. The effects on muscle mass were less uniform and depended on dose, duration, Initial condition and evaluation method.

The age of 40 should be understood as a pragmatic milestone for health promotion, and not as a diagnostic criterion or universal time of onset of sarcopenia. The evidence directly The probability produced in women in their early 40s remains limited, and no study has demonstrated it. reduction in the incidence of new cases.

For physiotherapy, the results support the judicious use of physical-functional assessment. Individualized therapeutic exercise, monitoring, and reassessment. However, most of the Studies support modalities applicable to the profession, and not specifically professional effectiveness. Only one study explicitly identified physiotherapy supervision, and none compared professional categories.

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Taken together, the evidence indicates that physiotherapy possesses normative competencies and resources.

Therapeutic approaches compatible with the preservation of sarcopenia-related markers. Trials

Future pragmatists must identify who provides the care and employ diagnostic criteria.

Standardized methods allow for monitoring new cases over a prolonged period and comparing intervention models.

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