

Contributions of physical exercise to female sexual function: an integrative review

Contribuições da prática de exercícios físicos para a função sexual feminina: uma revisão integrativa

Contribuciones de la práctica de ejercicios físicos a la función sexual femenina: Una revisión integrativa

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Abstract

Introduction: Planned and structured physical exercise improves physical, psychological, and sexual health. Most publications on libido and sexual health focus on men, although physical exercise is also important for women's health. **Objective:** To describe how physical exercise can contribute to women's sexual health. **Methods:** This was an integrative review, with a search conducted in the PubMed, LILACS, and SciELO databases. Original studies that addressed physical exercise among women, regardless of reproductive status, with an outcome related to sexual function or satisfaction, published in English, Portuguese, or Spanish from 2013 to 2023 were included. **Results:** Physical exercises, especially those focused on the core and pelvic floor, significantly improve female libido and sexual function, including arousal and pain reduction, as well as reduction of urinary symptoms. These exercises are more effective than surgical procedures and benefit women at different life stages and with various health conditions. **Conclusions:** Structured physical exercise is essential for improving health and providing significant benefits for women's sexual health.

Keywords: Exercise; Sexual health; Libido; Women.

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Resumo

Introdução: O exercício físico planejado e estruturado melhora a saúde física, psicológica e sexual. A maioria das publicações sobre libido e saúde sexual investiga a população masculina, embora a prática de exercícios também seja significativa para a saúde feminina. **Objetivo:** Descrever como os exercícios físicos podem contribuir para a saúde sexual feminina. **Métodos:** Tratou-se de uma revisão integrativa, cuja busca foi realizada nas bases de dados PubMed, LILACS e SciELO. Foram incluídos estudos originais que abordassem a prática de exercícios físicos por pessoas do sexo feminino, independentemente do status reprodutivo, com desfecho relacionado à função/satisfação sexual, publicados em inglês, português ou espanhol no período de 2013 a 2023. **Resultados:** Exercícios físicos, especialmente aqueles focados no core e no assoalho pélvico, melhoram significativamente a libido e a função sexual feminina, incluindo a excitação e a redução da dor, além da redução de sintomas urinários, sendo mais eficazes do que procedimentos cirúrgicos, beneficiando mulheres em diferentes estágios da vida e com várias condições de saúde. **Conclusões:** Os exercícios físicos estruturados são fundamentais para melhorar a saúde e oferecer benefícios significativos para a saúde sexual feminina.

Palavras-chave: Exercício físico; Saúde sexual; Libido; Mulheres.

Resumen

Introducción: El ejercicio físico planificado y estructurado mejora la salud física, psicológica y sexual. La mayoría de las publicaciones sobre libido y salud sexual investigan la población masculina, aunque la práctica de ejercicio también es significativa para la salud de las mujeres. **Objetivo:** Describir cómo el ejercicio físico puede contribuir a la salud sexual de las mujeres. **Método:** Se trata de una revisión integrativa, con una búsqueda realizada en las bases de datos PubMed, Lilacs y Scielo. Se incluyeron estudios originales que abordaron la práctica de ejercicios físicos por mujeres, independientemente de su estado reproductivo, con resultados relacionados con la función/satisfacción sexual, publicados en inglés, portugués o español entre 2013 y 2023. **Resultados:** Los ejercicios físicos, especialmente aquellos enfocados en el core y el suelo pélvico, mejoran significativamente la libido y la función sexual femenina, incluyendo la libido, la excitación y la reducción del dolor, así como la disminución de síntomas urinarios. Estos ejercicios son más efectivos que los procedimientos quirúrgicos y benefician a mujeres en diferentes etapas de la vida y con diversas condiciones de salud. **Conclusión:** El ejercicio físico estructurado es esencial para mejorar la salud y proporciona beneficios significativos para la salud sexual de las mujeres.

Palabras-clave: Ejercicio físico; Salud sexual; Libido; Mujeres.

INTRODUCTION

Physical exercise is a planned, structured, and repetitive activity aimed at improving or maintaining physical fitness and a healthy weight, and it can increase musculoskeletal and aerobic capacity.¹ Exercise generally improves physical and psychological health; however, its effects on sexual function are less well understood.² From this perspective, few studies show that exercising can help women feel more aroused and experience greater pleasure, in addition to improving cardiovascular health and mood.²⁻⁵

It is known that female sexuality can be unsatisfactory due to challenges related to emotional, physical, social, and even cultural factors. These challenges can impact women's lifestyles, affecting their health.⁶ To achieve a satisfying sex life, healthy habits are important, such as engaging in physical exercise, adopting a balanced diet, and implementing strategies to reduce exposure to stress.⁷

Libido is defined as a person's sexual drive or desire, which can be influenced by various factors, such as hormones and psychological health; it is an essential part of the human sexual response, linked to the motivation to engage in sexual intercourse and the desire to share physical intimacy with a partner.⁷

This study is justified by the importance of gathering and analyzing evidence on the effects of physical exercise on sexual health and female libido, since most publications in this area focus on the male population,^{8,9} and associate exercise with improved sexual health in general or in the context of chronic diseases,^{7,10} while research specifically exploring this impact on the female population remains scarce.

The objective of this study is, therefore, to describe how physical exercise can contribute to women's sexual health.

METHOD

This is an integrative review, which, according to Botelho et al.,¹¹ involves six stages:

- i) identification of the topic and selection of the research question;
- ii) establishment of inclusion and exclusion criteria;
- iii) identification of preselected and selected studies;
- iv) categorization of selected studies;
- v) analysis and interpretation of results; and
- vi) presentation of the review/synthesis of knowledge.

This study was conducted based on the following research question: "How can physical exercise contribute to women's sexual health?" The selection of studies was carried out in June 2024, using two search strategies that combined Health Sciences Subject Headings (DeCS) and were applied to the PubMed, LILACS, and SciELO databases:

- i) "exercise" AND "libido" AND "woman";
- ii) "exercise" AND "libido".

Original studies were included that addressed physical exercise among women, regardless of reproductive status, with an outcome related to sexual function or satisfaction, published in English, Portuguese, or Spanish between 2013 and 2023. Duplicates (36), reviews (12), animal studies (3), and studies unrelated to the topic (54) were excluded because they: i) did not address physical exercise (29), did not include a female population (17), or did not present outcomes related to libido (8). To broaden the scope of the review and ensure the inclusion of relevant studies, the snowball method was applied, through which another six articles that met the inclusion criteria were identified and added based on the references of the initially selected articles.

The identified articles were exported to the free Rayyan platform¹² for initial screening based on titles and abstracts, guided by the eligibility criteria. This step was conducted independently and in a blinded manner by two reviewers, and discrepancies were resolved by consensus. When full-text versions were not available, the articles were requested from the authors or accessed via the institutional login of the authors of this study.

Eligible articles were read in full and systematized in a database using Microsoft Excel® software, considering the following variables: author and year of publication, title, study design, research location, study sample, exercises used, instruments for assessing impact, and main results/outcomes. Quantitative data were presented using descriptive statistics, as absolute numbers and percentages. Qualitative information was presented by characterizing the studies and their main results (Chart 1).

RESULTS

A total of 242 studies were identified, of which 14 were included according to the eligibility criteria, published between 2013 and 2023. Figure 1 shows the literature selection flowchart. This review consisted

Chart 1. Individual characteristics of the studies.

Author and year	Study design and location	Sample	Exercises and instruments used	Main results
Eftekhari et al., 2014 ¹³	Randomized controlled clinical trial (Iran)	90 women (45 in each group; age range: 25–55 years)	Group A received standard rectocele repair and perineoplasty. Group B received physiotherapy for eight weeks, twice a week (electrostimulation, Kegel exercises). (FSFI)	Libido improved in both groups. Orgasm and dyspareunia improved in Group B.
Reed et al., 2014 ¹⁴	Factorial design trial 3x2 randomized controlled trial (United States)	355 peri- and postmenopausal women. Yoga group: (n=107); Exercise group: (n=106); Control group: (n=142)	The participants were randomized into groups for yoga, aerobic exercise, and omega-3 supplementation. The Menopause-Specific Quality of Life Questionnaire (MENQOL) was administered.	Yoga practice resulted in improvements in the total MENQOL score of -0.3 (95%CI -0.6 to 0.0; p=0.02); as well as in vasomotor symptoms (p=0.02) and the sexuality domain (p=0.03) at 12 weeks. The exercise and omega-3 group did not show a significant change in the MENQOL score at 12 weeks. The exercise group showed a significant improvement in the physical domain score of the MENQOL at 12 weeks (p=0.02).
Zhang et al., 2014 ¹⁵	Randomized controlled clinical trial (China)	157 female healthcare professionals with perimenopausal symptoms (78 in the intervention group and 79 in the control group; age range: 40–55 years)	The intervention group performed aerobic exercises three times a week; the Kupperman Menopause Index questionnaire was administered (KMI)	Changes in the total KMI score (-9.23 [6.23]); mean changes in individual scores for paresthesia (-1.08 [1.51]); insomnia (-1.00 [1.46]); irritability (1.00 [1.34]); joint or muscle pain (0.75 [0.74]); fatigue (0.56 [0.75]), headache (0.54 [0.75]); tingling (0.38 [0.66]); and sex life (0.62 [1.71]);
Borkoles et al., 2015 ¹⁶	Cross-sectional study (Australia)	213 women; mean age: 52.2±5.9 years	Participants completed a questionnaire with questions regarding demographics, lifestyle habits, and medical history. (MRS, DS14, and KPAS)	Higher levels of sports and exercise behavior were associated with a reduction in psychological, somatic/physical, and sexual symptoms, while household chores were associated with an increase in symptoms across all four menopausal factors.
Braekken et al., 2015 ¹⁷	Randomized controlled clinical trial (Norway)	109 women (50 in the intervention group and 59 in the control group); mean age: 48.9±11.8 years	50 women received six months of pelvic floor muscle training (PFMT) and lifestyle guidance, while 59 participants received only lifestyle counseling. (validated questionnaire specific to pelvic organ prolapse)	Participants reported increased pelvic floor control, strength, and awareness; improved self-confidence; a sensation of a “tighter” vagina; improved libido and orgasms; and resolution of dyspareunia.
Lara et al., 2015 ¹⁸	Case-control study (Brazil)	94 women (43 with PCOS and 51 without PCOS); age range: 18–37 years	A supervised physical resistance training (PRT) program was administered over 16 weeks. Before the PRT, the women performed resistance exercises for adaptation. (FSFI)	There were significant increases in scores for desire, arousal, and lubrication, as well as an improvement in pain scores.

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Chart 1. Continuation.

Author and year	Study design and location	Sample	Exercises and instruments used	Main results
Halis et al., 2016 ¹⁹	Prospective experimental study (Turkey)	34 women (all practiced pilates; age range: 20–50 years)	Pilates sessions were conducted twice a week for 12 weeks, with exercises focusing on balance, control, precision, concentration, breathing, and flow. (FSFI and BDI)	Improvements were observed in sexual desire, arousal, lubrication, orgasm, satisfaction, and pain scores in all participants.
Johnson et al., 2016 ²⁰	Randomized trial (United States)	187 postmenopausal women; age range 39–45 years	Sessions of hypnotic relaxation therapy and structured attention control were conducted; the Sexual Activity Questionnaire (SAQ) was administered. A structured questionnaire assessed demographic characteristics (age, education level, marital status, and household income), as well as the type of cancer treatment received (surgery, chemotherapy, radiotherapy, hormone therapy, and breast surgery). (EORTC QLQ-C30 and FSFI)	There was a significant improvement in sexual pleasure (from 11.42 to 14.13 after six weeks, and then to 14.84 after 12 weeks); and a reduction in sexual discomfort (from 3.30 to 3.08) after 12 weeks.
Paiva et al., 2016 ²¹	Cross-sectional study (Brazil)	216 women; age range: 28–75 years; median: 52 years.		71.3% of the patients were classified as having hypoactive sexual desire disorder (HSDD); 63.3% of the women who had been sexually active in the past month were classified as having sexual dysfunction.
Nazarpour et al., 2017 ²²	Randomized clinical trial (Iran)	145 women (48 in the formal sex education group, 47 in the Kegel group, and 50 in the control group); age range: 40–60 years	Sex education and Kegel exercises were conducted over a 12-week period. (FSFI)	Arousal scores in the formal sex education and Kegel groups were higher than in the control group. Orgasm and satisfaction scores in the Kegel group were higher compared to the control group.
Xi et al. 2017 ²³	Randomized clinical trial (China)	60 women (30 in the intervention group and 30 in the control group); age range: 40–55 years	Women in the intervention group received health education, dietary guidance, and exercise guidance twice a week, while those in the control group continued their usual routines. (KMI).	Individual KMI scores for paresthesia, irritability, depression, fatigue, arthralgia/myalgia, sexual life, and palpitations in the intervention group were lower compared to the control group.
Burti et al., 2019 ²⁴	Uncontrolled experimental study (Brazil)	57 women (34 in group A and 23 in group B); Group A, with a mean age of 67.5 years and low socioeconomic status; and Group B, with a mean age of 63 years and high socioeconomic status)	Five exercise sessions were conducted in each group, lasting 2 hours, under the guidance of a physical therapist. (VAS)	The lack of libido reported by the older women in the study could be related to cultural and educational factors typical of the age group. Both groups reported improvements in urinary symptoms, body awareness, and pelvic floor awareness after the exercises.

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Chart 1. Continuation.

Author and year	Study design and location	Sample	Exercises and instruments used	Main results
Enjezab et al., 2019 ²⁵	Randomized clinical trial (Iran)	83 women; intervention group with a mean age of 50.89±2.53 years; control group with a mean age of 49.67±2.73 years	Mindfulness-based cognitive therapy was administered for eight weeks (120 minutes; once a week). (MENQOL)	In the intervention group, the mean quality-of-life score and its dimensions (except for the sexual dimension) showed a significant reduction immediately and one month after the end of the intervention compared to the control group.
Maleki et al., 2023 ²⁶	Quasi-experimental study (Iran)	72 women (36 in each group, age range 20–45 years)	Each group performed core stabilization exercises three times a week, one hour per day for two months (each session included seven types of exercises, and each exercise was repeated 3–10 times). (FSFI)	The mean sexual desire score after the intervention was significantly higher than before the intervention.

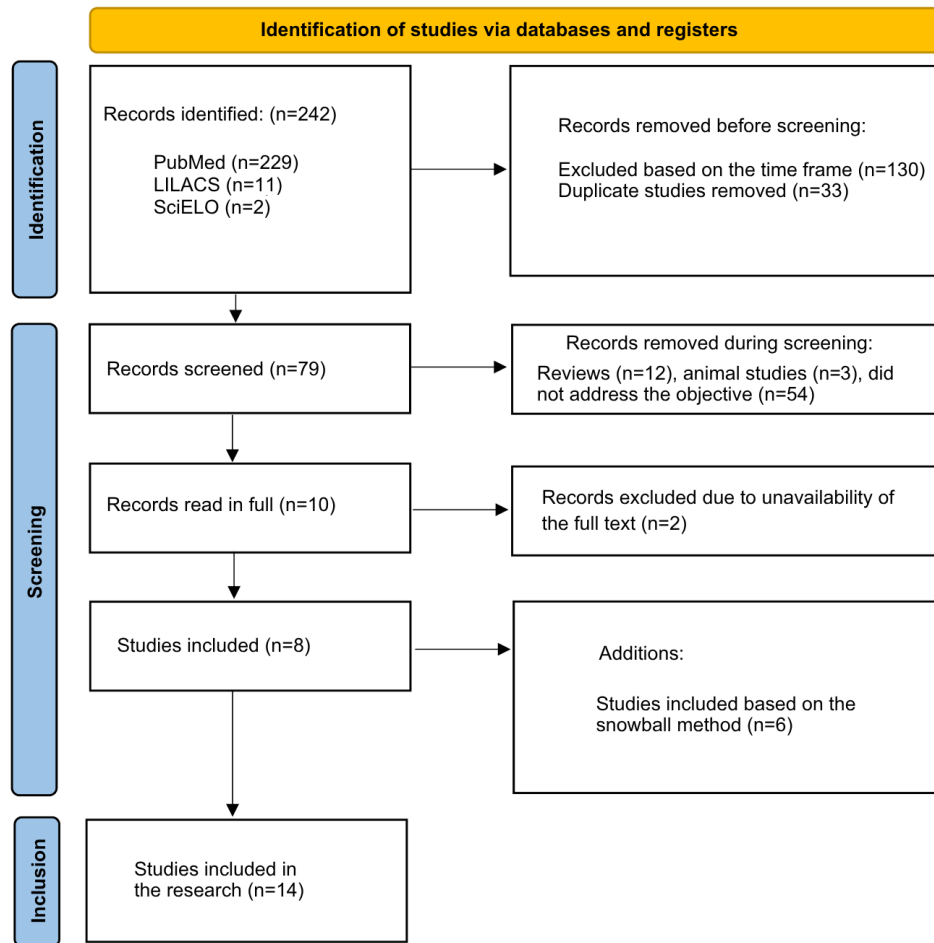
Source: Prepared by the authors (2025).

BDI: Beck Depression Inventory; $\pm$: standard deviation; CI: confidence interval; DS14: Type-D Scale; VAS: Visual Analog Scale for pain; EORTC QLQ-C30: EORTC Core Quality of Life Questionnaire; FSFI: Female Sexual Function Index; KPAS: Kaiser Physical Activity Survey; MRS: Menopause Rating Scale; MENQOL: Menopause-Specific Quality of Life Questionnaire; KMI: Kupperman Menopause Index; SAQ: Sexual Activity Questionnaire; PCOS: polycystic ovary syndrome; PRT: physical resistance training; HSDD: hypoactive sexual desire disorder.

of two cross-sectional observational studies and 12 experimental studies (8 randomized clinical trials, 1 quasi-experimental, 1 uncontrolled experimental, 1 case-control, and 1 prospective experimental). The total sample analyzed comprised 1,842 women. The geographic distribution of the countries where the studies were conducted included Australia (n=1), Brazil (n=3), China (n=2), the United States (n=2), Iran (n=4), Norway (n=1), and Turkey (n=1).

Regarding the instruments used to measure outcomes, the Female Sexual Function Index (FSFI) — a scale that assesses sexual function in women — was used in 42.86% (n=6) of the articles. In addition, in 7.1% (n=1) of the studies, the following were also administered: the Menopause Rating Scale (MRS) — which assesses quality of life and menopausal symptoms; the Sexual Activity Questionnaire (SAQ) — used to assess aspects of sexual activity; the Kupperman Menopause Index (KMI) — which assesses the intensity of menopausal symptoms; and the Menopausal Quality of Life Questionnaire (MENQOL) — a questionnaire used to assess quality of life during menopause in women.

In conjunction with these, the following questionnaires were administered: Type-D Scale (DS14) — developed to measure Type D personality; Kaiser Physical Activity Survey (KPAS) — analyzes the duration, frequency, and fatigue associated with activities; Beck Depression Inventory (BDI) — assesses the presence and severity of depressive symptoms; Visual Analog Scale for Pain (VAS) — rates pain intensity; and the EORTC Core Quality of Life Questionnaire (EORTC QLQ-C30) — which assesses quality of life. When comparing the effects of surgical intervention with the prescription of physical exercise in women with sexual dysfunction, Eftekhar et al.¹³ concluded that the pelvic relaxation surgical procedure — based on standard rectocele repair and perineorrhaphy — yielded positive results for women's sexual health.



Source: Prepared by the authors (2025).

Figure 1. Literature selection flowchart.

However, performing Kegel exercises, aimed at strengthening the pelvic floor, and using electrostimulation twice a week for eight weeks were more effective, based on the Female Sexual Function Index (FSFI), and resulted in a significant improvement in libido ($p < 0.05$), allowing for more comprehensive improvements in female sexual function compared to the surgical procedure ($p < 0.05$).

Reed et al.¹⁴ identified positive changes in scores on the Menopause-Specific Quality of Life Questionnaire (MENQOL) when investigating the effect of yoga practice in a sample of 355 women with a mean age of 54.7 years, who were in menopause and experiencing vasomotor symptoms. Groups were established for yoga, regular physical activity, and placebo. When compared to daily physical activity, yoga practice contributed to an improvement in the total score on the MENQOL (-0.3 ; 95% confidence interval [CI] -0.6 to 0.0 ; $p = 0.02$); it improved vasomotor symptoms ($p < 0.05$) and the sexuality domain ($p < 0.05$) over 12 weeks. No significant differences were observed between the regular physical activity group, the omega-3 group, or the placebo group. No statistically significant differences were identified among the study groups regarding sexual function, stress, and pain.

Zhang et al.¹⁵ reported that physical exercise significantly alleviated perimenopausal symptoms in middle-aged women through physiological responses such as improved blood lipid profiles, glucose levels, and reduced body weight. The change in the total score of the Kupperman Menopause Index (KMI) was statistically greater in the intervention group than in the control group ($p < 0.001$; 95%CI 4.01 to 8.56). Changes in individual scores for symptoms such as paresthesia, insomnia, irritability, fatigue, bone/

joint/muscle pain, headache, tingling, and sex-related symptoms were identified, to varying degrees, as being more pronounced in the intervention group. Markers such as total cholesterol, plasma triglycerides, weight, and body mass index showed positive changes over the 12-week period in the intervention group. The group of women who engaged in physical exercise, such as moderate-intensity walking, showed a reduction in total body weight and body mass index.

Borkoles et al.¹⁶ found that women with Type-D personality exhibited more significant symptoms during menopause, particularly during household activities. Regular exercise and sports participation, in turn, were inversely related to the perception of somatic and sexual symptoms. The use of the Menopause Rating Scale (MRS), the Type-D Scale (DS14), and the Kaiser Physical Activity Survey (KPAS) demonstrated the relationship between Type-D personality, physical activity behavior, and menopausal symptoms, in which regular engagement in light- to moderate-intensity physical exercise had a significant impact on the quality of life and health of the target population.

In the study conducted by Braekken et al.,¹⁷ pelvic floor muscle training (PFMT) had a positive effect on improving sexual function in women with pelvic organ prolapse. The study found increased control, strength, and awareness of the pelvic floor, as well as improved self-confidence, libido, and orgasm, and resolution of pain during sexual intercourse. The intervention group, consisting of 50 women, was followed for six months as part of a PFMT program and lifestyle counseling. The control group consisted of 59 women who received lifestyle counseling. Interview data revealed that 19 women (39%) in the PFMT group and two women (5%) in the control group reported improved sexual function ($p < 0.05$). The women who reported improved sexual function showed the greatest increases in pelvic floor muscle strength, with mean strength of 16, standard deviation [$\pm$] 10 cmH₂O, and endurance of 150 ± 140 cmH₂O ($p < 0.05$).

Lara et al.¹⁸ reported an improvement in women's sexual health following the prescription of an adaptive resistance exercise program focused on weight resistance training in a group of women with polycystic ovary syndrome. The participants experienced significant increases in scores for desire (odds ratio [OR] -0.79; 95%CI -1.21 to -0.38; $p < 0.05$), arousal (OR -0.92; 95%CI -1.40 to -0.43; $p < 0.05$), lubrication (OR -0.76; 95%CI -1.23 to -0.29; $p < 0.05$), and improved pain scores (OR -1.00; 95%CI -1.57 to -0.43; $p < 0.05$).

Halis et al.¹⁹ found that instruction and prescription of the Pilates method with exercises for balance, control, precision, concentration, breathing, and flow, in a group of women attending two sessions per week over a total period of three months, had a positive effect on the Female Sexual Function Index (FSFI), which increased from 25.9 ± 7.4 (9.7–36.0) to 32.2 ± 3.6 (24.8–36.0) after the intervention ($p < 0.05$). Improvements were also observed in sexual desire (+33%), arousal (+21%), lubrication (+19%), orgasm (+26%), satisfaction (+28%), and pain scores (+19%) ($p < 0.05$). The percentage of participants with female sexual dysfunction, which was 41.0% prior to the intervention, decreased to 11.7% ($p = 0.006$), with a total FSFI score of ≤ 26.55 .

Johnson et al.²⁰ reported responses to hypnotic relaxation therapy for sexual dysfunction in 187 postmenopausal women aged 39 to 75 years, with a mean age of 54.62 ± 6.78 years. The Sexual Activity Questionnaire (SAQ) was administered. The sample of 75 women reported sexual inactivity, while 111 participants reported being sexually active. The intervention resulted in significant changes in scores related to the feeling of sexual pleasure, rising from 11.42 to 14.13 points by the end of the 6th week of follow-up, with further improvement through the 12th week. A change in the sexual discomfort score was also observed, decreasing from an initial 3.30 to 3.08 at the end of treatment. It was concluded that hypnotic relaxation has a positive effect, improving the quality of sexual health in postmenopausal women.

Paiva et al.²¹ examined the relationship between body mass index, physical activity levels, and sexual dysfunction in breast cancer survivors. A structured questionnaire assessed demographic characteristics (age, education level, marital status, and household income) and the type of prior cancer treatment (surgery, chemotherapy, radiation therapy, hormone therapy, and breast surgery). Responses to the FSFI and EORTC Core Quality of Life Questionnaire (EORTC QLQ-C30) provided by patients with sexual dysfunction indicated that engaging in light- to moderate-intensity physical activity was associated with a lower risk of developing this health condition (OR 0.478; $p=0.063$).

Nazarpour et al.²² analyzed the effectiveness of formal sex education and Kegel exercises in caring for sexual function among postmenopausal women receiving care through the healthcare system, compared to a routine care in a postmenopausal group. A total of 156 women began the study, and 145 completed all stages of the research. Sexual function was assessed using the Female Sexual Function Index (FSFI). After 12 weeks of intervention, when evaluating scores related to arousal, the sex education group scored highest (3.38 points), followed by the Kegel exercises group (3.15) and the control group (2.77). The study found no statistically significant differences in the total sexual function scores among the participants. The sex education, Kegel exercises, and control groups had scores of 24.4 ± 3.4 , 23.9 ± 5.8 , and 22.9 ± 6.6 , respectively.

Xi et al.²³ analyzed the effect of health education combined with dietary changes and group exercise on a group of 60 Chinese women with perimenopausal symptoms. Changes in dietary habits and physical activity behavior were observed in the intervention group, while the control group did not show significant changes in this regard. Individual scores on the Kupperman Menopause Index (KMI) — related to paresthesia, irritability, depression/distrust, fatigue, arthralgia/myalgia, and palpitations—were significantly lower in the intervention group compared to the control group after a 12-week intervention. In the intervention group, the intake of grains, oils, and fats was lower than at the beginning of the program. In the control group, a reduction in cereal intake was observed. The number of physically active women was significantly higher in the intervention group and showed a marked increase over the course of 12 weeks. The practice of physical exercise combined with health education yielded significant results in promoting women's sexual health.

Burti et al.²⁴ identified the effects of physical exercises aimed at strengthening the core muscles (abdominals, lower back, pelvis, hips, and perineum) on the sexual health of older women from different socioeconomic levels. Five 2-hour exercise sessions targeting the pelvic floor muscles — both in isolation and in combination with breathing, balance, resistance, coordination, and postural control exercises, with progressively increasing intensity — led to improvements in urinary symptoms, body awareness, and pelvic floor awareness among the participants.

In the study by Enjezab et al.,²⁵ the effects of mindfulness-based cognitive therapy had a positive impact on promoting the health and quality of life of perimenopausal women. Of the 83 participants, 21% attended all program sessions, 38% attended seven sessions, and 41% attended six sessions. The administration of the Menopause-Specific Quality of Life Questionnaire (MENQOL) revealed differences in scores between the intervention and control groups. Women in the intervention group highlighted its effects on the vasomotor dimension, while the control group showed an increase in scores on the psychological dimension. Given the positive responses at different time points during the study (before, immediately after, and 30 days after the interventions), it can be concluded that mindfulness-based cognitive therapy had a positive effect on the quality of life of perimenopausal women.

Maleki et al.²⁶ demonstrated that regular physical exercise promoted core stability and sexual desire in postpartum women. Seven types of exercises were applied in sets of 3–10 repetitions during three weekly

sessions, each lasting 60 minutes, over an eight-week period. Each session consisted of a 10-minute warm-up, 40 minutes of core stabilization exercises, and a 10-minute cool-down involving stretching exercises. The mean sexual desire score after the intervention in the experimental group was significantly higher than before the intervention ($p < 0.05$). The mean sexual desire score after the intervention in the experimental group was significantly higher than in the control group ($p < 0.05$). The mean sexual desire scores before and after the intervention in the control group were not significantly different ($p = 0.40$).

DISCUSSION

The findings demonstrate the therapeutic efficacy of physical training — particularly that targeting the core and pelvic floor muscles — as a first-line intervention to improve the Female Sexual Function Index (FSFI) in diverse clinical contexts. The results converge in indicating that the strengthening and body awareness achieved through these programs promote significant improvements in multiple domains of sexuality.

Findings such as those of Burti et al.,²⁴ who observed improved urinary symptoms and increased body awareness in older women following core strengthening, and those of Maleki et al.,²⁶ who identified an increase in postpartum sexual desire with core stabilization exercises, position the central functional axis as a crucial element in the rehabilitation and promotion of sexual health.

The effectiveness of physical intervention is highlighted by its superiority over other procedures. Eftekhar et al.¹³ established that the combination of pelvic floor exercises and electrostimulation proved to be more effective in improving sexual function than surgical intervention for sexual dysfunction, pointing to a lower-risk and cost-effective therapeutic approach.

This versatility is enhanced by the effectiveness of specific modalities: Halis et al.¹⁹ demonstrated that the Pilates method, due to its focus on motor control and precision, improved the Female Sexual Function Index (FSFI), while Lara et al.¹⁸ highlighted the benefits of resistance exercises in women with polycystic ovary syndrome, with a positive impact on desire, arousal, and lubrication. Additionally, specific pelvic floor muscle training has been shown to improve sexual function in patients with pelvic organ prolapse, as reported by Braekken et al.¹⁷

The benefits of exercise extend to populations with complex health conditions, reinforcing its systemic role. Borkoles et al.¹⁶ and Paiva et al.²¹ established positive correlations between physical activity and a reduction in menopausal symptoms and sexual dysfunction in breast cancer survivors, respectively. Such evidence demonstrates the role of exercise in cancer rehabilitation and in the modulation of menopausal symptoms.

Reinforcing this perspective, Zhang et al.¹⁵ highlighted the systemic effects of regular exercise during perimenopause, which include metabolic benefits such as a reduction in body weight and the optimization of glycemic and lipid profiles, indicating that improved sexual function is part of comprehensive care. The use of Integrative and Complementary Health Practices (IChP), such as yoga, underscores the diversity of evidence-based strategies that promote women's sexual health, as emphasized by Reed et al.¹⁴

From a broader view on care, Nazarpour et al.²² and Xi et al.²³ emphasized that the integration of educational strategies and the inclusion of dietary guidance in the care plan are crucial. This multimodal approach is complemented by mind-body techniques, such as mindfulness²⁵ and hypnotic relaxation therapy,²⁰ which have been shown to significantly improve women's quality of life.

In this context, physical exercise represents a cost-effective, non-invasive intervention with a wide range of physiological and psychosocial benefits. The fact that exercise-based methods have proven to be

a highly effective treatment alternative — sometimes superior to more invasive interventions — suggests a significant reduction in risks for the patient and potential economic benefits for the public health system.

In light of these findings, investment in guided physical exercise programs integrated with the treatment plan, as well as promoting equitable access to these programs are essential. Such actions can significantly contribute to quality of life and strengthen comprehensive, preventive, and harm-reduction care in women's sexual health.

Study Limitations

Despite the methodological rigor adopted in this integrative review, including structured search strategies, well-defined eligibility criteria, double-blind screening, the use of specific tools, and systematic data analysis, some limitations should be considered. The absence of registration on platforms such as PROSPERO, although justifiable given the type of review (non-systematic), reduces the transparency and reproducibility of the process.²⁷ The inclusion of different methodological designs broadened the understanding of the topic but hindered the uniform application of standardized instruments for assessing study quality. In addition, no meta-analysis was conducted. Furthermore, limitations inherent to the included studies themselves were observed, such as subjectivity in measuring exercise intensity, the absence of validated protocols for assessing psychosocial aspects related to female sexuality, a predominance of self-reported measures, and heterogeneity among the samples, all of which may limit the generalizability of the findings.

Nevertheless, this review offers a comprehensive and up-to-date synthesis that contributes to the understanding of the relationship between physical exercise and women's sexual health, in addition to identifying relevant gaps for future research. To improve the level of evidence and the applicability of the findings, future studies should use larger samples, standardize interventions, and conduct longer-term follow-ups.

CONCLUSION

This study demonstrated that specific physical exercises, such as core and pelvic floor strengthening exercises, significantly improve female sexual function, including libido, arousal, and pain reduction. The reviewed studies showed that these practices increase body awareness, reduce urinary and pain symptoms, and are more effective than surgical procedures for sexual health. Physical exercises also benefited women in the postpartum period, perimenopause, and menopause, and those with conditions such as pelvic organ prolapse and polycystic ovary syndrome. Other modalities, such as yoga, pilates, hypnotic relaxation therapy, and resistance training with weights, also contributed to women's quality of life. These findings indicate that the prescription of exercise can improve women's quality of life and sexual health, suggesting the need for further research to explore the efficacy and mechanisms of these interventions in diverse populations.

CONFLICT OF INTERESTS

Nothing to declare.

AUTHORS' CONTRIBUTIONS

GGCL: Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Project administration, Validation, Visualization, Writing – original draft, Writing – review & editing. RSJS: Data curation, Formal Analysis, Validation, Visualization, Writing – original draft. LSC: Data curation, Formal Analysis, Validation, Visualization, Writing – original draft. ASLSR: Data curation, Formal Analysis, Validation, Visualization, Writing – original draft. MCM: Data curation, Validation, Visualization, Writing – original draft. GFB: Conceptualization, Validation, Visualization, Supervision, Writing – review & editing.

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