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| *Table. Study Characteristics* |
| Study | Design | Population | Intervention | Other Information |
| First author, Year published, Country, Study funding, Whether study had multiple sites | Randomization, Unit of assignment, Treatment-on-treatment, Outcome assessors blinded, Participants blinded, Monitored for protocol fidelity, Used a true control group, Intent-to-treat | Sample N, Average age, Percent male, Percent Caucasian, Percent with education less than or equal to high school (HS-) | Treatment interventionComparator interventionLength of the intervention, Number of required visits, Hours of intervention received by the intervention group, Hours of intervention received by the control/comparison group, Compensation | Outcome variables |
| Aycinena, 2017, United States, Unfunded, Single site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Not monitored, No true control group, Intent-to-treat | N = 42, 50.7 years of age, 0% male, 0% Caucasian, 66.7% HS- | Treatment intervention: Circuit-based resistance and aerobic physical activityComparator intervention: Delayed circuit-based resistance and aerobic physical activity52 weeks, 89 visits, the intervention group received 39 hours of intervention, the control group received 39 hours of delayed intervention, participants were compensated but the amount is not reported | Perception of lifestyle behaviors, Health beliefs, Quality of life, Treatment adherence, Self-efficacy, Social support, Fatigue, Anxiety, Depression, Perceptions of clinical research participation |
| Penttinen, 2009, Finland, Grant funded, Multi-site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Monitored, True control group, Not intent-to-treat | N = 413, 52.8 years of age, 0% male, Percent Caucasian not reported, HS- not reported | Treatment intervention: Home-based exercise training with weekly supervised training sessionComparator intervention: Control group was encouraged to maintain their previous levels of physical activity without receiving a supervised or home training program52 weeks, 54 visits, the intervention group received 52 hours of intervention, the control group received 0 hours of intervention, participants were not compensated  | Physical activity levels, Physical performance, Quality of life, Fatigue, Depression, Menopausal symptoms |
| Eakin, 2011, Australia, Grant funded, Single site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Not monitored, True control group, Intent-to-treat | N = 143, 52.9 years of age, 0% male, Percent Caucasian not reported, 53.2% HS- | Treatment intervention: Telephone counseling to encourage increased levels of exercise and physical activityComparator intervention: Usual care and control group participants received an exercise workbook and planner after study completion34.4 weeks, 3 visits, the intervention group received 8 hours of intervention, the control group received 0 hours of intervention, participants were not compensated  | Physical activity, Strength training, Quality of life, Fatigue, Anxiety, Upper body functioning |
| Zhou, 2013, United States, Grant funded, Single site | Randomized, Individual unit of assignment, Treatment-on-treatment, Outcome assessors blinded, Participants not blinded, Not monitored, No true control group, Not intent-to-treat | N = 192, 56.0 years of age, 0% male, 94.1% Caucasian, 18.5% HS- | Treatment intervention: Health-care practitioner advice for increasing physical activity plus telephone counseling to increases physical activityComparator intervention: Health-care practitioner advice for increasing physical activity plus telephone calls that control for telephone contact12 weeks, 4 visits, the hours of intervention received by the intervention and control groups were not reported, participants were not compensated  | Height, Body weight, Physical activity levels, Quality of life, Depression, Motivational readiness for physical activity |
| Irwin, 2008, United States, Multiple funding sources, Single site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors blinded, Participants not blinded, Monitored, True control group, Intent-to-treat | N = 75, 55.8 years of age, 0% male, 84.0% Caucasian, 19.0% HS- | Treatment intervention: Supervised training program at a local health club and a home aerobic training programComparator intervention: Usual care, which included recommendations to maintain current activity levels and the study exercise materials were provided at the conclusion of the study26 weeks, 80 visits, the intervention group received 60.5 hours of intervention, the control group received 1.5 hours of intervention, participants were not compensated | Physical activity levels, Treatment adherence, Medical History, Health habits, Comorbidities, Height, Weight, Body composition, Dietary habits |
| Loh, 2012, Malaysia, Grant funded, Single site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Not monitored, True control group, Not intent-to-treat | N = 197, 51.1 years of age, 0% male, 0% Caucasian, HS- not reported | Treatment intervention: Qigong Comparator intervention: Line dancing as an exercise control and a usual care group that could receive the intervention after the study concluded8 weeks, 10 visits, the intervention group received 12 hours of intervention, the control group received 0 hours of intervention, participants were not compensated | Barriers to recruitment |
| Korde, 2009, United States, Funded by multiple grants and institutes, Single site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Not monitored, True control group, Not intent-to-treat | N = 58, Age not reported, 0% male, Percent Caucasian not reported, HS- not reported | Treatment intervention: Educational booklet designed to increase physical activityComparator intervention: Stretching with a request to maintain but not increase physical activity levels12 weeks, the number of required visits was not reported, the hours of intervention received by the intervention and control groups were not reported, participants were not compensated | Recruitment efficiency |
| Fields, 2016, United Kingdom, Funded by multiple research institutes, Single site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Monitored, True control group, Not intent-to-treat | N = 40, 63 years of age, 0% male, 53.5% Caucasian, 42.5% HS- | Treatment intervention: Nordic walking intervention with supervised and independent componentsComparator intervention: Enhanced usual care where participants were contacted every 2 weeks to check for onset of any new issues and participants received physical activity booklet and exercise diary, participants were offered the intervention after the study concluded12 weeks, 9 visits, the intervention group received 21 hours of intervention, the control group received 0 hours of intervention, participants were not compensated | Feasibility, Physical activity levels, Pain, Depression, Self-efficacy for managing pain, Quality of life |
| Bennett, 2007, United States, Funded by a research institute, Single site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Not monitored, No true control group, Not intent-to-treat | N = 56, 57.8 years of age, 11.0% male, 98.0% Caucasian, 26.5% HS- | Treatment intervention: Motivational interviewingComparator intervention: Participants were requested to maintain their current activity levels, two brief social conversations with the study’s physical activity counselors26 weeks, 3 visits, the intervention group received 1 hours of intervention, the control group received 0 hours of intervention, participants in the intervention and control group were compensated $30 | Physical activity, Aerobic fitness, Health status, Fatigue, Self-efficacy for regular physical activities |
| Kim, 2011, South Korea, Grant funded, Single site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Monitored, True control group, Intent-to-treat | N = 45, 45.8 years of age, 0% male, Percent Caucasian not reported, 64.5% HS- | Treatment intervention: Individualized exercise and diet programComparator intervention: No treatment12 weeks, 2 visits, the intervention group received 30 hours of intervention, the control group received 0 hours of intervention, participants were not compensated | Intervention feasibility, Stage of motivational readiness for exercise and diet, Physical activity, Diet quality, Quality of life, Fatigue, Anxiety, Depression |
| Johnston, 2011, United States, Funded by multiple research institutions, Single site | Randomized, Group unit of assignment, No treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Not monitored, True control group, Not intent-to-treat | N = 13, 53.9 years of age, 0% male, 67.6% Caucasian, HS- not reported | Treatment intervention: Self-care and acupunctureComparator intervention: Usual care8 weeks, 14 visits, the hours of intervention received by the intervention and control groups were not reported, participants were not compensated | Fatigue, Cognitive functioning |
| Cadmus Bertram, 2011, United States, Funded by a research institute, Single Site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Monitored, No true control group, Not intent-to-treat | N = 50, 54.3 years of age, 0% male, 92.0% Caucasian, 14.0% HS- | Treatment intervention: Telephone-based exercise counseling intervention to increase physical activityComparator intervention: Usual care25.8 weeks, 3 visits, the intervention group received 64 hours of intervention, the control group received 0 hours of intervention, participants were not compensated | Physical activity, Readiness to adopt physical activity, Medical History, Participant satisfaction |
| Daley, 2007, United Kingdom, Grant funded, Single site | Randomized, Individual unit of assignment, Treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Monitored, No true control group, Intent-to-treat | N = 108, 51.1 years of age, 0% male, 98.2% Caucasian, 44.0% HS- | Treatment intervention: Supervised exercise session and exercise counselingComparator intervention: Supervised exercise sessions, Usual care8 weeks, 29 visits, the intervention group received 8 hours of intervention, the control group received 0 hours of intervention, intervention group participants were compensated $92.50 and control group participants were compensated $20 | Medical history, Body mass index, Percent body fat, Aerobic exercise capacity, Stage of change for exercise, Physical activity level  |
| Stan, 2012, United States, Grant funded, Single site | Not randomized, No comparison group, Treatment-on-treatment is not applicable, Outcome assessors being blinded is not applicable, Participants being blinded is not applicable, Not monitored, No true control group, Not intent-to-treat | N = 15, 49.0 years of age, 0% male, 93.3% Caucasian, HS- not reported  | Treatment intervention: Pilates classesComparator intervention: No comparison group12 weeks, 3 visits, the intervention group received 27 hours of intervention, the comparison group received 0 hours of intervention, participants were not compensated | Feasibility, Adherence, Flexibility, Lymphedema, Quality of life, Mood, Body image  |
| Ott, 2006, United States, Grant funded, Multiple sites | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Not monitored, No true control group, Intent-to-treat | N = 249, 58.5 years of age, 0% male, 98.7% Caucasian, HS- not reported | Treatment intervention: Home-based strength trainingComparator intervention: Risedronate plus calcium and vitamin D104 weeks, 4 visits, the hours of intervention received by the intervention and control groups were not reported, participants were not compensated | Body mass index, Muscle strength, Balance, Fall incidence, Flexibility, Adherence, Risk factors |
| McTiernan, 1998, United States, Grant funded, Multiple sites | Not randomized, No comparison group, Treatment-on-treatment is not applicable, Outcome assessors being blinded is not applicable, Participants being blinded is not applicable, Monitored, No true control group, Not intent-to-treat | N = 10, Age not reported, 0% male, 90.0% Caucasian, HS- not reported | Treatment intervention: Moderate intensity aerobic exercise and low-fat dietComparator intervention: No comparison group8 weeks, 26 visits, the intervention group received 24 hours of intervention, the comparison group received 0 hours of intervention, participants were not compensated | Weight, Percent body fat, Body composition, Sex hormone measurements, Total E13, Total E2, Free E2, Sex hormone-binding globulin, E1 sulfate, Free and total testosterone, Androstenedione, Dehydroepiandrosterone, Dehydroepiandrosterone sulfate  |
| Rogerino, 2009, United States, Grant funded, Multiple sites | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors blinded, Participants not blinded, Not monitored, True control group, Not intent-to-treat | N = 295, 56 years of age, 0% male, 64.5% Caucasian, 15.5% HS- | Treatment intervention: Strength trainingComparator intervention: Delayed treatment52 weeks, 109 visits, the intervention group received 110 hours of intervention, the control group received 130 hours of delayed intervention, participants in the intervention and control group were compensated $145 | Limb volume, Circumferential measurements, Bioelectrical spectroscopy, Pain, Lymphedema onset/flare-up factors, Finger dexterity, Body composition, Fasting blood draws, Muscle strength, Quality of life, Physical activity, Dietary assessment |
| Broderick, 2013, Ireland, Funded by a research institute, Single site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors blinded, Participants not blinded, Monitored, No true control group, Intent-to-treat | N = 43, 51.8 years of age, 4.0% male, 97.6% male, HS- not reported | Treatment intervention: Supervised and home-based aerobic exerciseComparator intervention: Usual care8 weeks, 19 visits, the intervention group received 22hours of intervention, the control group received 0 hours of intervention, participants were not compensated | Body composition, Cardiovascular parameters, Fitness, Quality of life, Activity level, Fatigue, Satisfaction,  |
| Hayes, 2010, Australia, Unfunded, Single site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors blinded, Participants not blinded, Not monitored, No true control group, Intent-to-treat | N = 127, 52.5 years of age, 0% male, Percent Caucasian not reported, HS- not reported | Treatment intervention: Moderate intensity physical activityComparator intervention: Usual care34.4 weeks, 19 visits, the intervention group received 7 hours of intervention, the control group received 0 hours of intervention, participants were not compensated | Quality of life, Physical activity levels, Functional capacity, Presence and severity of treatment-related symptoms (e.g., Fatigue, Pain, Lymphedema) |
| Pinto, 2004, United States, Grant funded, Single site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Monitored, No true control group, Intent-to-treat | N = 86, 53.1 years of age, 0% male, 95.4% Caucasian, 17.5% HS- | Treatment intervention: Home-based physical activity interventionComparator intervention: Contact control group where participants received a weekly call12 weeks, 4 visits, the intervention group received 17 hours of intervention, the control group received 0 hours of intervention, participants were not compensated | Body composition, Physical activity levels, 1-mile walk test, Activity monitoring, Stage of motivational readiness for physical activity, Mood, Fatigue, Body esteem |
| Westphal, 2018, Austria, Grant funded, Multiple sites | Randomized, Individual unit of assignment, Treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Not monitored, No true control group, Intent-to-treat | N = 50, 60.9 years of age, 0% male, Percent Caucasian not reported, HS- not reported | Treatment intervention: Supervised physical activity intervention with nutrition lifestyle and physical activity counselingComparator intervention: Unsupervised physical activity intervention with nutrition lifestyle and physical activity counseling48 weeks, 101 visits, the intervention group received 168 hours of intervention, the control group received 168 hours of delayed???? intervention, participants were not compensated | Maximum power output, Feasibility of achieving 12 METh/week, Quality of life, Lifestyle, Sports habits, Body mass index, body fat analysis, Waist-to-hip ratio |
| Al-Majid, 2015, United States, Grant funded, Single site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Not monitored, No true control group, Not intent-to-treat | N = 14, 50.3 years of age, 0% male, Percent Caucasian not reported, 35.8% HS- | Treatment intervention: Supervised treadmill exerciseComparator intervention: Usual care12 weeks, 36 visits, the intervention group received 16.7 hours of intervention, the control group received 0 hours of intervention, participants were not compensated | Recruitment, Retention, Adherence, Tolerance of exercise testing, Aerobic fitness, Hb concentration, V02 max, Fatigure, Quality of life, Inflammatory markers |
| Myers, 2019, United States, Multiple funding sources, Single site | Randomized, Individual unit of assignment, Treatment-on-treatment, Outcome assessors blinded, Participants not blinded, Monitored, No true control group, Not intent-to-treat | N = 50, 54.1 years of age, 0% male, 93.3% Caucasian, 10.0% HS- | Treatment intervention: QigongComparator intervention: Gentle exercise (sham Qigong), Survivorship support8 weeks, 11 visits, the intervention group received 34 hours of intervention, the control group received 0 hours of intervention, participants were not compensated | Recruitment, Retention, Attendance, Memory, Processing speed, Executive function |
| Lynch, 2017, United States, Grant funded, Single site | Not randomized, No comparison group, Treatment-on-treatment is not applicable, Outcome assessors being blinded is not applicable, Participants being blinded is not applicable, Not monitored, No true control group, Intent-to-treat | N = 46, 39 years of age, 34.8% male, 98% Caucasian, 4.0% HS- | Treatment intervention: Web-based weight loss and healthy eating interventionComparator intervention: No comparison group52 weeks, 3 visits, the intervention group received 143 hours of intervention, the hours of intervention received by the comparison group was not reported, participants in the intervention group were compensated $89, compensation for the comparison group was not reported | Participation rates, Retention, Dropout, Adherence, Body composition, Safety |
| Ammitzboll, 2017, Denmark, Grant funded, Single site | Not randomized, No comparison group, Treatment-on-treatment is not applicable, Outcome assessors being blinded is not applicable, Participants being blinded is not applicable, Not monitored, No true control group, Not intent-to-treat | N = 8, 57.4 years of age, 0% male, Percent Caucasian not reported, 25.0% HS- | Treatment intervention: Individualized strength training exercise prescriptionComparator intervention: No comparison group50 weeks, 44 visits, the intervention group received 131.25 hours of intervention, the hours of intervention received by the comparison group was not reported, participants were not compensated | Eligibility rate, Recruitment rate, Program satisfaction, Adherence, Interlimb volume difference, Body mass index, Dynamic muscle strength, Isometric muscle strength, Handgrip strength, Shoulder range of motion, Pain, Sensory disturbances, Swelling, Physical activity, Anxiety, Depression, Quality of life, Fatigue |
| Gollhofer, 2015, Germany, Grant funded, Single site | Randomized, Individual unit of assignment, Treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Not monitored, No true control group, Intent-to-treat | N = 160, 55.8 years of age, 0% male, Percent Caucasian not reported, HS- not reported | Treatment intervention: Resistance trainingComparator intervention: Relaxation training12 weeks, 27 visits, the intervention group received 24 hours of intervention, the control group received 24 delayed???? hours of intervention, participants were not compensated | Tumor size, Lymph node status, Tumor stage, Comorbidities, Chemotherapy, Age, Body mass index, Fatigue, Physical activity, Motivation for exercise |
| Porter, 2018, United States, University funded, Single site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors not blinded, Participants not blinded, Not monitored, True control group, Not intent-to-treat | N = 40, 62.9 years of age, 45% male, 72.5% Caucasian, 22.2% HS- | Treatment intervention: Web-based physical activity video counseling for couplesComparator intervention: Waitlist control7 weeks, 4 visits, the intervention group received 4 hours of intervention, the control group received 0 hours of intervention, participants in the intervention and control group were compensated $40 | Acceptability of the intervention, Physical activity, Partner support for exercise, Physical well-being |
| Hirschey, 2018, United States, Grant funded, Single site | Randomized, Individual unit of assignment, No treatment-on-treatment, Outcome assessors blinded, Participants not blinded, Monitored, No true control group, Not intent-to-treat | N = 60, 58.0 years of age, 0% male, 74.1% Caucasian, HS- not reported | Treatment intervention: Narratives designed to improve exercise outcome expectationsComparator intervention: Attention control focusing on diet rather than exercise12 weeks, 0 visits, the hours of intervention received by the intervention group was not reported, the control group received 0 hours of intervention, participants were compensated but the amount was not reported for either the intervention or the control group | Recruitment, Retention, Physical activity, Outcome expectations, Exercise intentions |