Online Resource 2. Detailed prescription of the exercise component

Article: “Women in Action”: a multicomponent gender-sensitive intervention combining psychosocial factors, resistance training and nutrition in older women. A quasi-experimental feasibility study protocol

Journal: Aging Clinical and Experimental Research

Authors: Noelia Belando-Pedreño, Ángel Ballester-Sánchez, Irene Barbero-Alcocer, Guillermo Peña García-Orea

Corresponding author: Noelia Belando-Pedreño, Department of Education Sciences, University of Oviedo, Oviedo, Spain; belandonoelia@uniovi.es

Table S1 Quantification of the resistance training load

Variable	Phase 1 (weeks 1–4)	Phase 2 (weeks 5–10)	Phase 3 (weeks 11–16)
Training frequency	2 sessions/week	2 sessions/week	2 sessions/week
Exercises per session	6–7	7–8	6–8
Sets per exercise	2	2–3	2–3
Repetitions per set	7–10	7–10	7–10
Velocity-loss threshold (when monitored)	≈10%	≈10%	10–15%
Intensity (%1RM)	40–50%	50–60%	60–70%
Level of effort: repetitions performed (maximum possible)	7–10 (18–25)	7–10 (14–20)	7–10 (10–15)
Inter-set rest	90 s	120 s	150–180 s
Exercise selection	Single- and multi-joint upper- and lower-body pulling and pushing exercises (e.g. squat, row, bench press, deadlift, push-up, step-up)	Single-, combined and multi-joint upper- and lower-body pulling and pushing exercises (e.g. squat-to-press, lunge-to-pull, step-and-push, lateral lunge-to-pull)	Single-, combined and multi-joint upper- and lower-body pulling and pushing exercises; functional integrated patterns (e.g. squat-to-press, lunge-to-pull, step-and-push, lateral lunge-to-pull)
Load monitoring	Level of effort; OMNI-RES 0–10; estimated %1RM	Level of effort; OMNI-RES 0–10; estimated %1RM	Level of effort; OMNI-RES 0–10; estimated %1RM
Approximate time per session	20–25 min (exercises performed in circuit format where needed to respect rest intervals)	20–25 min	20–25 min

1RM one-repetition maximum. Level of effort expressed as repetitions performed relative to the maximum number achievable at that load (Pareja-Blanco and Loturco 2026); within each range, the repetitions performed are set below the estimated maximum so that sets do not reach failure. 1RM is estimated from submaximal repetitions to fatigue at the start of each phase. Velocity-loss thresholds apply only where a linear position transducer is available.

Table S2 Quantification of the cardiorespiratory conditioning load

Variable	Phase 1	Phase 2	Phase 3
Training frequency	2 sessions/week	2 sessions/week	2 sessions/week
Duration	8–10 min	10–12 min	12–15 min
Number of exercises	4–6	4–6	4–6
Work interval	45 s	60 s	60 s
Active recovery	45 s	60 s	40 s
Intensity (%HRR)	50–60%	70–80%	85–90%
Intensity (RPE, Borg CR-10)	3–4	4–5	5–6
Monitoring	Heart-rate monitor (%HRR); RPE; instructor verbal checks	Heart-rate monitor (%HRR); RPE; instructor verbal checks	Heart-rate monitor (%HRR); RPE; instructor verbal checks

HRR heart-rate reserve, RPE rating of perceived exertion.

Table S3 Quantification of the balance training load

Variable	Phase 1	Phase 2	Phase 3
Training frequency	2 sessions/week	2 sessions/week	2 sessions/week
Duration	8–10 min	8–10 min	8–10 min
Number of exercises	4–5	4–5	4–5
Work interval	20–30 s	20–30 s	20–30 s
Rest interval	20–30 s	20–30 s	20–30 s
Difficulty	Wide base of support	Narrow base of support; changes of direction	Dual-task activities; controlled perturbations

Content	Mobility and static balance	Dynamic balance and proprioception	Functional balance and complex tasks

Table S4 Session structure

Element	Description
Session duration	50–60 min, two sessions/week on non-consecutive days
Session structure	Warm-up (5–8 min); resistance training (20–25 min); cardiorespiratory conditioning (8–10, 10–12 and 12–15 min in phases 1, 2 and 3); balance training (8–10 min); cool-down, transitions and feedback (5–7 min)
Supervision	Qualified exercise professionals trained in resistance training for middle-aged and older women and in gender stereotypes related to physical activity
Individualisation	Adjustment of loads, volume and exercise selection to functional capacity
Training environment	Safe, inclusive, body-positive settings; absence of body-related judgement; social support; positive progressive feedback