Supplementary Material (Tables S1)

DESCRIPTION OF CONVENTIONAL EXERCISES USED IN THE PROTOCOL	
EXERCISE BLOCKS	DESCRIPTION
Block 1. Aerobic exercises (Ae)	Stepping up and down on a step repeatedly, alternating between front and lateral steps to engage different muscle groups. Marching in place with knee lifts and active upper limb movements. Walking circuits at a faster-than-usual pace. Using an ergometric bicycle and treadmill with adjustable resistance and speed settings.
Block 2. Muscle strengthening (Mst)	Resistance exercises using isotonic muscle tension (concentric and eccentric) and isometric contraction. Upper limb strength incorporating hand, elbow-forearm, and shoulder segments. Abdominal and dorsal trunk strength through prone, supine, and lateral positions on a mat. Lower limb strength incorporating hip, knee, and ankle segments.
Block 3. Postural balance (Pb)	Static balance exercises in single-leg and double-leg support, along with dynamic balance exercises on unstable, uneven surfaces, with obstacles, and in tandem. General exercises for functional reach, precision, agility, and spatiotemporal coordination are also included, featuring activities such as catching, throwing with upper and lower limbs, and performing postural changes and transitions.
Block 4. Flexibility (Fl)	Global and analytical exercises for controlled stretching targeting the major muscle groups of the upper limbs, trunk, and lower limbs, alternating between standing, seated, and supine/prone positions on a mat.

- The exercises incorporated support elements such as balls, discs, BOSU, graded dumbbells, resistance bands, ankle weights, rollers, wedges, and sticks.
- Exercise intensity ranged from light to moderate according to a 0 - 10 point perceived exertion scale.
- The specific exercises of each block (Ae, Mst, Pb, and Fl) were alternated in each session and were indicated with an individualized approach in series and repetitions according to the tolerance of each participant.
- A rest period of approximately two minutes was considered between blocks.

DISTRIBUTION OF INTERVENTION TIME PER SESSION.			
CONTROL GROUP		EXPERIMENTAL GROUP	
Intervention	Time (minutes)	Intervention	Time (minutes)
Physical agents	10	Physical agents	10
Warm-up	5	Warm-up	5
Block 1 (Ae)	12.5	Block 1 (Ae)	7.5
Block 2 (Mst)	12.5	Block 2 (Mst)	7.5
Block 3 (Pb)	12.5	Block 3 (Pb)	7.5
Block 4 (Fl)	12.5	Block 4 (Fl)	7.5
Cool-down	5	Cool-down	5
Physical agents	10	AVGs	20
Exercise time	50	Physical agents	10
Session time	80	Exercise time	50
		Session time	80
Both groups performed the same exercise block scheme, but the experimental group decreased the time, reducing the series and repetitions performed in each block.			

Supplementary Material (Table S2)

DESCRIPTION OF THE AVGs USED IN THE PROTOCOL	
EXERCISE GAMES	DESCRIPTION
Dorsal rotation	Requires continuously rotating the torso from side to side while maintaining an upright posture, with feet shoulder-width apart and holding the ring at waist level
Rotation with inclination	From a semi-squat position, maintaining a slight forward flexion and holding the ring in front, alternating trunk rotations are performed, incorporating a pause under isometric tension at the point of maximum rotation.
Knee raises	Consists of alternately lifting the knees toward the chest in a continuous, coordinated movement with flexion and extension of the upper limbs.
Squats	With feet shoulder-width apart and holding the ring at abdomen level, controlled squats are performed, incorporating an isometric pause in semi-flexion between the descent and ascent phases.

Lunge with rotation	It requires stepping forward into a lunge position. While holding the ring with arms raised, the torso is rotated towards the leading leg, incorporating an isometric pause at the point of maximum rotation.
Lateral inclination	With feet shoulder width apart and holding the ring with raised arms, controlled lateral trunk inclinations are performed, incorporating an isometric pause at the point of maximum inclination.
Squats with extension	With feet externally rotated and placed wider than shoulder-width apart, holding the ring with arms raised, controlled squats are performed, incorporating an isometric pause in semi-flexion between the descending and ascending phases.
The warrior	Yoga posture involving lateral trunk bends with the lower limbs aligned in tandem, holding the ring with arms raised.
The chair	Yoga posture in which, starting from a static semi-squat, the upper limbs are moved in a controlled manner through flexion and extension.
Crescent moon	Yoga posture in which alternate trunk rotations are performed with the lower limbs aligned in tandem and holding the ring in front.
Equilibrism	The objective is to capture as many coins as possible, which appear randomly while the avatar walks in tandem on a rail, carrying a horizontal bar and dodging obstacles and enemies. The participant must perform static walking while holding the ring at the level of the abdomen and perform rapid lateral trunk inclinations.
Moto adductors	The objective is to capture as many coins as possible, which appear randomly while the avatar advances in a cart, dodging obstacles and enemies. The participant sits with the ring between the knees exerting a variable force on it to control the cart's progress.
Trunk swinging	The objective is to capture as many coins as possible, which appear randomly while the avatar remains on a platform, dodging obstacles and enemies. The

	participant must hold the ring with arms raised and perform quick, coordinated trunk movements.
Running path, Monster's lair, Jogging bridge	These running games aim to advance through various environments with obstacles and challenges. These levels demand adjusting pace, dodging barriers, facing challenges through continuous movement, and promoting aerobic exercise while progressing. Participants perform static marching or jogging while controlling the character's actions with the ring.

DISTRIBUTION OF THE EXERCISE GAMES IN EACH WEEKLY SESSION.									
SET 1. First weekly session.									
Dorsal rotation	Rotation with inclination	Knee raises	Squats	Equilibrism	Dorsal rotation	Rotation with inclination	Knee raises	Squats	Running path
SET 2. Second weekly session.									
The warrior	The chair	Lunge with rotation	Knee raises	Moto adductors	The warrior	The chair	Lunge with rotation	Knee raises	Monster's lair
SET 3. Third weekly session.									
Crescent moon	Knee raises	Lateral inclination	Squats with extension	Trunk swinging	Crescent moon	Knee raises	Lateral inclination	Squats with extension	Jogging bridge