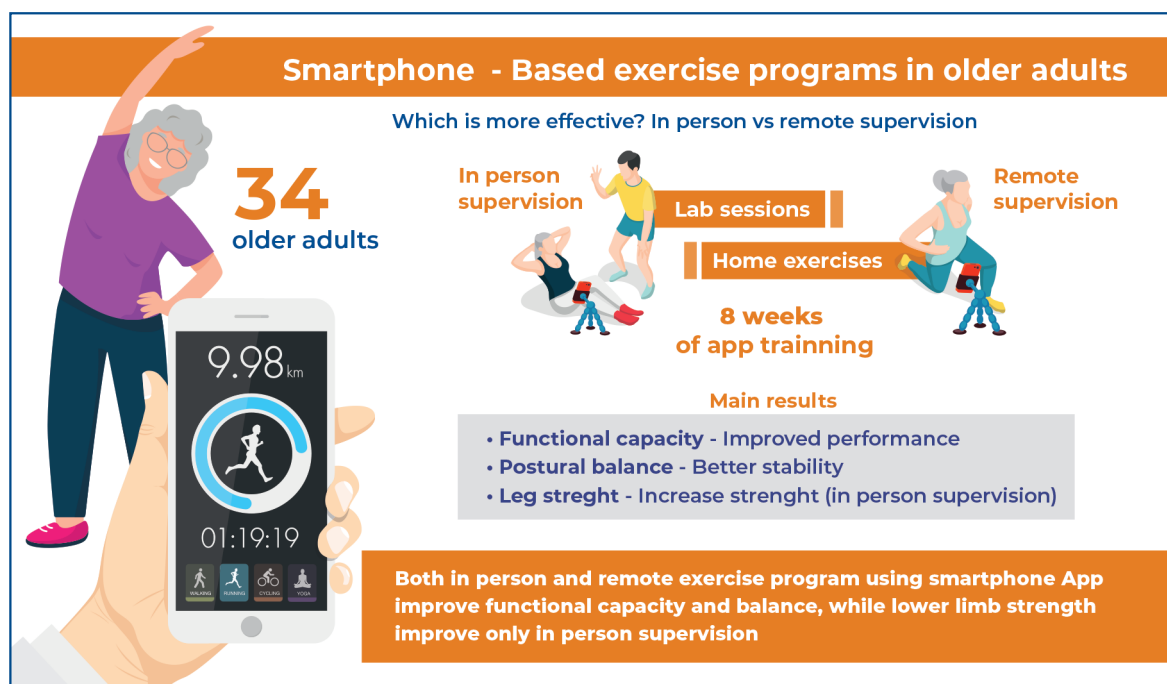


Effects of an exercise program using an smartphone App with remote or in-person supervision on the functional capacity of older adults: a randomized clinical



Authors

André Issao Kunitake, João Carlos Ferrari Corrêa, Raphael Mendes Ritti-Dias, Fernanda Ishida Corrêa

Correspondence

E-mail: correafe29@gmail.com

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In Brief

This study evaluated App-based exercise programs with in-person or remote supervision in older adults. After 8 weeks, both groups showed similar improvements in functional capacity and postural balance. Lower limb strength improved only in the in-person supervised group, supporting the effectiveness of smartphone-based training.

Highlights

- Smartphone-based training improved functional capacity in older adults.
- Remote and in-person supervision led to similar gains in functional capacity.
- Postural balance improved comparably in both groups.
- Lower limb strength improved only in-person supervision with exercise App.

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I SUPPLEMENTARY MATERIAL

Effects of an exercise program using an smatphone App with remote or in-person supervision on the functional capacity of older adults: a randomized clinical

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Table 1S. Exercise Booklet

Instructions:

- 1) You are receiving a booklet with guidelines for exercises that will be performed using the application.
- 2) The exercise program should be conducted 3 days a week.
- 3) Before performing exercises, measure your blood pressure with the pressure measuring device and ensure you are feeling comfortable, without shortness of breath or anxiety.
- 4) Make sure you are wearing comfortable clothing, not too tight:
 - T-shirt (tank top, cotton, nylon);
 - Pants (sweatshirt, nylon pants, or leggings; avoid jeans);
 - Footwear (sneakers or closed shoes that do not slip)
- 5) Prepare the exercise area
 - Do not leave many objects nearby, except for the chair and supports;
 - Use a firm, heavy chair to prevent it from tipping over or moving out of place during exercises.
- 6) Exercises
 - Abdominal exercises are performed on a mat. If you don't have one, it can be done lying down in your bed;
 - The exercises are performed standing close to a wall.
 - Walking exercises should preferably be performed in a hallway or near a wall to support yourself if you lose your balance.
 - All exercises are timed and must be performed with the application installed on your smartphone/cell phone.
 - Always rest after each exercise.

Run in place

Perform movements as if you were running but without leaving the place (do it for 1 minute)

Boxing movements

Perform movements as if you are throwing punches (perform for 1 minute).

Walk by raising your leg high, bending your knee and hip (perform for 1 minute)

Single limb stance

Stand behind a chair or fixed surface, support yourself with one hand. Lift your right foot off the floor and try to balance on your left leg. Try to maintain this position for as long as the exercise lasts. Repeat the same exercise on the other side. The objective of this exercise is to try to stand on one foot without holding onto the chair, maintaining this position for as long as possible.

Walking heel to toe

You will walk in a straight line positioning your right foot in front of your left foot, such that your right heel touches the tip of your left foot's toes. Move your left foot in front of your right, touching your heel to the toes of your right foot. Repeat this movement during the exercise time.

Chair squat

Stand with your feet hip-width apart and in front of a chair. Keeping your chest straight and looking straight ahead as you slowly lean your butt back, bending your knees and slowly sitting up. Touch your butt to the chair or sit on it. Tilt your torso slightly forward to stand up. Stand up slowly until reaching an upright posture. Repeat this movement for as long as the exercise lasts. Be careful not to fall during the movements.

Lunges

Stand with your feet hip-width apart. Contract your abdomen. Take a big step forward with your right leg. Slowly start to squat, trying to bring your knee close to the floor. Be careful not to hit your knee hard on the floor. Always keep your torso straight. Avoid placing the knee of the right leg too far in front of the right foot. Return to the starting position and repeat the same movement on the other side.

Rock the boat

Stand with your feet hip-width apart. Make sure both feet are firmly placed on the floor. Keep your head up looking straight ahead. Shift your body weight onto your right foot and slowly lift your left leg off the floor. Try to maintain this position for as long as the exercise lasts. Repeat the same movement on the other side, slowly lifting the opposite leg.

continue...

...Continuation

Clock reach

You will need a chair for this exercise. Imagine that you are in the center of a clock. Number 12 is right in front of you and number 6 is right behind you. Hold the chair with your left hand. Raise your right leg and stretch your right arm pointing forward. Point your arm to the side, then behind you. Bring the arm back to the side, then forward. Keep your head straight and looking forward at all times. Repeat this exercise on both sides.

Bicycle crunches

Lie on the floor or bed, face up. Place your hands behind your head and try to pedal while keeping your abdomen contracted throughout the movement. As you bend your knee, try to bring your opposite elbow toward it, until it touches your knee. Ensure your rib cage is moving (rotating) with your elbow movements.

Back leg raise

Stand behind a chair. Slowly lift your right leg back without bending your knees or stretching your toes. Hold this position for a second, then gently lower your leg. Repeat the movements alternating feet with each left and right leg.

Single limb stance with arms

Stand with your feet together and arms at your sides next to the chair. Raise your left hand over your head and slowly lift your left foot off the floor. Hold this position for 10 seconds. Repeat the same action on the right side.

Side leg rise

You will need a chair for this exercise. Stand behind the chair with your feet slightly apart. Slowly lift your right leg out to the side. Keep your back straight, your big toe pointed forward and look straight ahead. Lower your right leg slowly. Repeat this movement alternating feet.

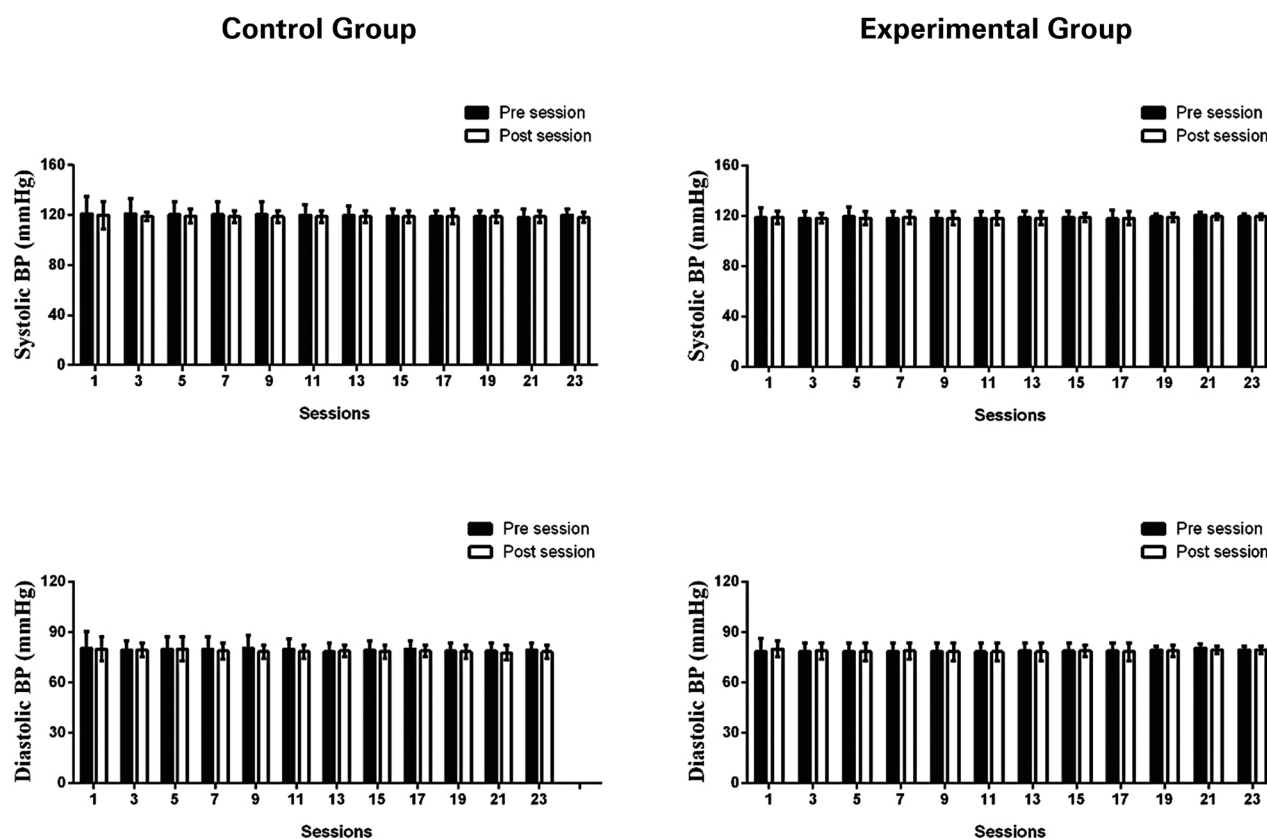


Figure 1S. Systolic and diastolic blood pressure responses before and after each intervention throughout the intervention program in Experimental and Control Groups

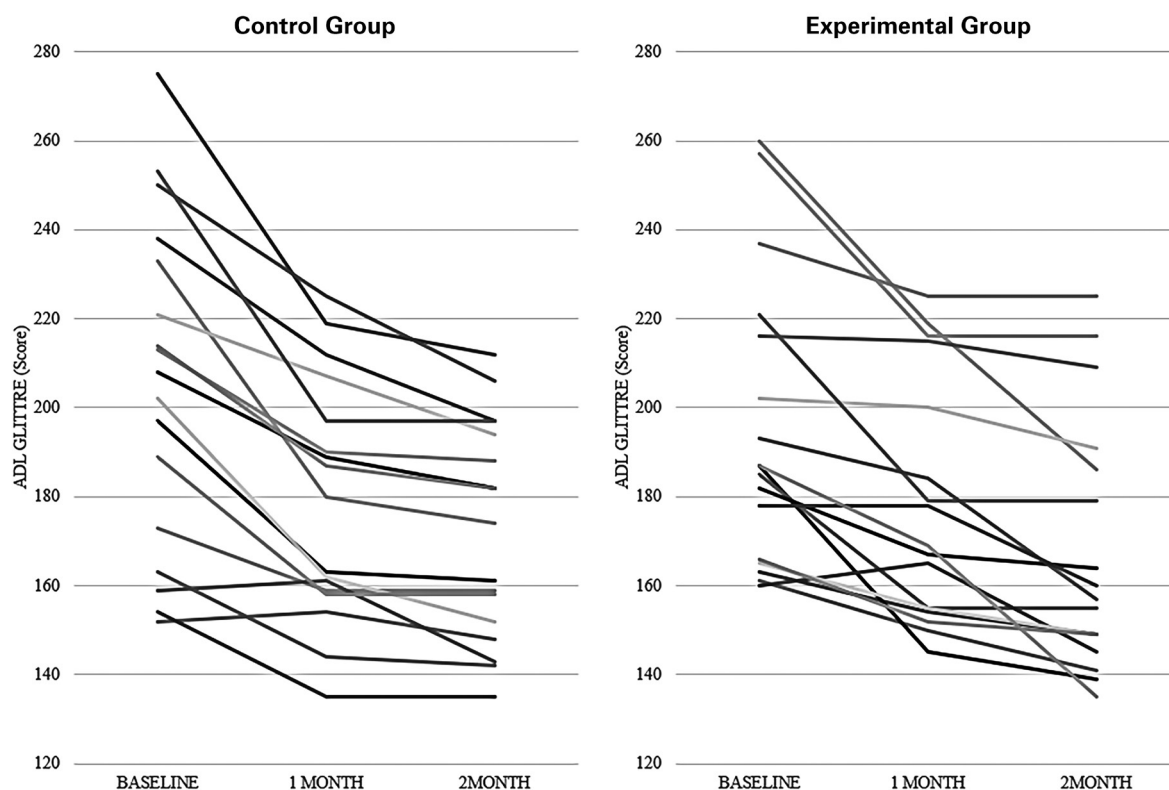


Figure 2S. Line chart of Control and Experimental Groups at baseline, after 1 month, and after 2 months of training