

SUPPLEMENTARY DIGITLA MATERIAL 1

Supplementary Table I.—Summary of the interventions included in the present study, following the TIDieR recommendations.

<b>TIDieR Item</b>	<b>Description</b>	
<b>BRIEF NAME</b>	CareHand	
<b>WHY</b>	Active self-management strategies, together with exercise and education are recommended for the management of hand OA, although lack of long-term adherence to treatment may limit the purported efficacy. mHealth devices are emerging to address this issue.	
	<b>CareHand app</b>	<b>Usual Care</b>
<b>WHAT</b>	A smartphone app including a home exercise program (with training dose based on self-reported pain intensity), educational and self-management strategies	Home exercise program with dose and explanations in a paper sheet.
Material Participants	Training program, self-management strategies and monitoring system included in a digital app available in Spanish for iOS and Android devices (Figure 1 and supplementary table III).  A unique access code was given to each participant.	A written exercise program and recommendations, including with images on a paper sheet (Supplementary table II).
Material Procedures	Initial appointment and baseline evaluation.  Introductory face-to-face session to provide code access and explanation of the smartphone app. Any doubt was resolved.	Initial appointment and baseline evaluation  Introductory face-to-face session to explain the exercise program. Any doubt was resolved.

	<p>Telephone calls once a month to monitor adherence and solve eventual problems.</p> <p>Self-reported questionnaires for pain and function were filled in using the app and monitored by one researcher.</p> <p>Follow-up appointment (telephone or supervised).</p>	<p>Telephone calls once a month to monitor adherence and solve eventual problems.</p> <p>Follow-up appointment (telephone or supervised).</p>
<b>WHO PROVIDES</b>	Physical therapist with expertise in hand therapy, upper limb rehabilitation and the use of new technologies.	Physical therapist with expertise in hand therapy, upper limb rehabilitation and the use of new technologies.
<b>HOW</b>	Intervention was delivered using a smartphone app.	Intervention was delivered on a written paper sheet.
<b>WHERE</b>	The training program was performed at home.	The training program was performed at home.
<b>WHEN AND HOW MUCH</b>	<p>Intervention started after an introductory session and lasted 3 months. Treatment was performed 4 times a week for 15-20 minutes, depending on symptoms and exercise dose.</p> <p>Number of repetitions and exercises was increased (if possible) every 2 weeks based on pain intensity (this was made automatically by the app).</p> <p>Baseline training dose is described in supplementary table III.</p>	<p>Intervention started after an introductory session and lasted 3 months. Treatment was performed 4 times a week for 15-20 minutes, depending on symptoms and exercise dose.</p> <p>Number of repetitions and exercises was increased (if possible) every 2 weeks based on pain intensity. This was made according to the patient's sensations.</p> <p>Baseline training dose is described in supplementary table II.</p>

<b>TAILORING</b>	<p>Exercises.</p> <p>Number of repetitions, range of movement and intensity were tailored to pain intensity and protocol phase (every 2 weeks). This was made automatically by the app.</p>	<p>Exercises.</p> <p>Number of repetitions, range of movement, and intensity were tailored according to pain intensity and protocol phase (every 2 weeks). This was made by the participant.</p>
<b>MODIFICATIONS</b>	No modifications were applied during the trial.	No modifications were applied during the trial.
<b>HOW WELL</b> Planned	<p>Exercise adherence and self-reported pain and function.</p> <p>Adherence to exercises was recorded by the app. This information was monitored by one researcher.</p>	Exercise adherence and self-reported pain and function.
<b>HOW WELL</b> Actual	Follow-up phone calls were made to monitor adherence and progression.	Follow-up phone calls were made to monitor adherence and progression.

Supplementary Table II.—Description of the home exercise program in the usual care group.

Exercise	Sets	Reps
1. Gently make a fist and then relax. It may be easier with your hand immersed in warm water, or harder when squeezing a rubber ball.	2	15-20
2. Extend your wrist over a table, with open hand and fingers extended.	2	15-20
3. Open and close your fingers with your hand over a table. The fingers should remain in extension.	2	15-20
4. Use your thumb pad to touch each one of the other fingers pads.	2	15-20
5. Flex and extend your wrist, while keeping a semi-closed fist.	2	15-20
6. Move your wrist laterally, with open and fingers extended.	2	15-20
7. Rotate your wrist, while keeping a semi-closed fist.	2	15-20
8. Extend your elbow so the upper limb hangs freely along your body side. Try to perform this exercise in sitting and standing positions.	2	10
9. Raise your upper limb laterally with the elbow extended	2	10
10. Starting from the position of exercise #9, touch your shoulder with the hand on the same side.	2	10

Note: Exercises should be performed within the pain-free tolerable range of motion

Supplementary Table III.—Description of the home exercise program in the CareHand group.

Exercise	Sets	Reps.
1. Put your hand into warm water and move your hand and fingers.	1	5-10 min.
2. Use your thumb pad to touch each one of the other fingers pads drawing an ‘O-sign’.	1	10
3. Try to flex the proximal and distal IP joints of all fingers (except the thumb) while keeping the MCP extended.	1	10
4. Try to flex the MCP joints of the 2 <sup>nd</sup> to 5 <sup>th</sup> finger while keeping the IF joints extended.	1	10
5. Isometric thumb abduction, at 50% of your MVC. Resist the movement with the other hand.	2	10
6. Isotonic thumb abduction. Resist the movement with a rubber band (placed below the knuckles). You can increase resistance using different TheraBand colors.	2	10
7. Squeeze a rolled towel using the 50% of your MVC.	2	10
8. Place your hand over a table and stretch your fingers one by one, using your other hand. Use a firm, but rather comfortable pressure.	1	30-60 sec.

IP: interphalangeal; MCP: metacarpophalangeal; MVC: maximum voluntary contraction.