

Author Year Country Research Design Score Total Sample Size	Methods	Outcome
Fathe et al. 2024 Iraq Prospective controlled trial Level 2 N = 18	Population: 18 individuals with SCI who had experienced an interruption in rehabilitation services 4 and 5 years earlier (because of war and/or COVID-19 pandemic): - Experimental group (n = 8): 5M, 3F Mean (SD) age: 32.25 (5.91) years. Injury level: C6-L2; tetraplegia (n = 1) and paraplegia (n = 7). ASIA A (n = 7), ASIA B (n = 1). Mean (SD) time since injury: 55 (4.78) months. - Control group 1 (n = 5): 3M, 2F Mean (SD) age: 26.80 (6.19) years. Injury level: T5-L2; tetraplegia (n = 5) and paraplegia (n = 0). ASIA A (n = 5), ASIA B (n = 0). Mean (SD) time since injury: 53.4 (5.81) months. - Control group 2 (n = 5): 3M, 2F Mean (SD) age: 21.20 (8.18) years. Healthy sample. Treatment: A personalized rehabilitation plan for each participant was provided for 6 months. The home telerehabilitation program focused on different exercises (bed exercises, rubber ball exercises for strength and balance, trunk flexibility exercises, crawling, rolling, ball-related movements, and exercises on parallel-bar), weight exercises (focused on the upper limbs, shoulders, chest, and back), and aerobic training targeting cardiorespiratory fitness. Program was five weekly sessions gradually increasing the intensity and volume (from 45 to 120 min). Control group 1 (SCI only) underwent the assessment test and the control group 2 (non-SCI) was included to	- The analysis indicates a lack of statistically significant impact on anthropometric measures and most muscle strength evaluations. Specifically, the p-values exceeded 0.05 (ranging between $p < 0.166$ and 1.000), except for the test assessing pelvis elevation from lying-down position and closing lower limbs. - The secondary assessments indicate no significant effect of the HTRP on anthropometric measures of abdomen/waist, both thighs, both legs circumferences, weight and BMI. The only significant effect on anthropometric measures was on pelvic circumference ($p < 0.001$).

	establish baseline levels of study variables for people without SCI. Outcome Measures: Anthropometric measurements for body parts circumferences and muscle strength tests (performed on participants' lower and upper extremities, head, and trunk to measure various movements using a handheld muscle tester) were assessed at baseline, at three months and at 6 months.	
García-Rudolph et al. 2024a Spain Case control Level 3 N = 84	Population: 84 participants with acute (within 2 months after injury) SCI. • Telerehabilitation (tele) SCI group (n = 42): 26M, 16F Median (Q1-Q3) age: 51 (35-60) years. Cause of injury: Traumatic (n = 18) and non-traumatic (n = 24). Injury level: Paraplegia (n = 30) and tetraplegia (n = 12). AIS A (n = 11), B (n = 0), C (n = 9), and D (n = 22). Median (Q1-Q3) time since injury: 39 (34-49) days. • Traditional rehabilitation inpatients (controls) matched for age, time since injury to rehabilitation admission, level of injury, complete or incomplete injury, and etiology (n = 42): 22M, 20F Median (Q1-Q3) age: 55 (36-62) years. Cause of injury: Traumatic (n = 16) and non-traumatic (n = 26). Injury level: Paraplegia (n = 31) and tetraplegia (n = 11). AIS A (n = 11), B (n = 5), C (n = 4), and D (n = 22). Median (Q1-Q3) time since injury: 42 (30-51) days. Treatment: Historical controls who had completed in-person rehabilitation were compared with a specific group of patients who followed teleSCI during the COVID-19 lockdown.	1. The teleSCI group showed no significant differences compared with traditional rehabilitation group in gains, efficiency and effectiveness in FIM, SCIM, or WISCI.

	• In-person rehabilitation: The rehabilitation program includes intensive treatment from the multidisciplinary team oriented toward training in activities of daily living and physical rehabilitation, respiratory management, training for bladder and bowel management, and psychological support. Physical rehabilitation, training of activities of daily living, and respiratory management constitute 3–4 hours of rehabilitation input daily, 5 days per week. • Intervention group: The focus of the teleSCI input was on physical rehabilitation and training of activities of daily living, which had three components: ○ TeleNeuroFitness (TNF) involved fitness exercises classes of 60 minutes with five patients connected online together with a medical fitness instructor. ○ TeleNeuroRehab (TNR) involved 30-minute one-to-one sessions with a physiotherapist or occupational therapist to explain exercises, provide advice, and resolve doubts. ○ TeleNeuroMov (TNM) utilized 15-minute 41 exercise (SCI-specific, and with different level of difficulty) videos that the patient could access during their day at home. The videos covered a wide range of exercise training including sessions for balance, upper limb and lower limb strengthening, respiratory exercises, trunk exercises, dynamic gait, fine hand training, hand	
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	strengthening, and bed mobility practice. All included patients received 3.5 hours of teleSCI a day, 5 days a week, for the duration of their rehabilitation that included 1 hour of TNF, three 30-minute sessions of TNR, and four 15-minute TNM sessions. *While at home, patients received a daily phone call from a member of the rehab nursing team and a weekly call from their physician to monitor any problems, and patients also attended the center once a month to be seen by their physician. The potential to be readmitted to the center because of medical complications that could not be managed at home was considered on a case-by-case basis. Outcome Measures: Gain, efficiency, and effectiveness for the FIM, SCIM-III, and WISCI II were calculated: • Gain = score at discharge – score at admission • Efficacy: difference between score at admission and score at discharge. • Efficiency: gain divided by length of stay and OM effectiveness as: (final score-initial score)/maximum score-initial score) x 100.	
Villiger et al. 2017 Switzerland Pre-post Level 4 N = 11	Population: 11 participants with motor-incomplete SCI and able to sit in a chair without assistive and supporting systems; mean ($\pm$ SD) age 60 ($\pm$ 10.2) years; level of injury C4 (n = 1), C5 (n = 3), C7 (n = 2), T4 (n = 1), T9 (n = 1), T12 (n = 2), and L3 (n = 1); AIS C (n = 1) and AIS D (n = 10); and mean time since injury 7.6 years. Treatment: All participants were trained at home on the VR tasks over a period of 4 weeks, with 16–20 sessions of 30–45 min each, and with the mobile prototype of the YouKicker system. Around 500 repetitions of ankle movements and 100 knee movements	1. At post-assessment, significant increases in comparison with the averaged pre-baseline and baseline were found in LEMS (P = 0.008) 2. There were no significant effects on 10MWT (P = 0.169), 6MWT (P = 0.037); SCIM-III mobility (P = 0.018), and WISCI II (P = 0.180). 3. At follow-up assessment, no significant changes were found in muscle strength (LEMS, P = 0.065), or walking speed/distance

	with each leg were performed through different blocks by a typical patient during a training session. Outcome Measures: LEMS, 10MWT, 6MWT, SCIM-III, and WISCI II were tested 4 weeks before treatment (pre-baseline), directly before treatment (baseline), after finishing the training program (post-assessment), and 2-3 months after the treatment program (follow-up).	and mobility (10MWT [P = 0.169], 6MWT [P = 0.32], SCIM-III mobility [P = 0.026], and WISCI II [P = 0.317]).
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