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Internet-based neck-specific exercises was non inferior compared to the same exercises at a physiotherapy clinic for chronic whiplash-associated disorders: A 15-month follow-up Anneli Peolsson[1,2], Gunnel Peterson[3,1]

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Background: It is unknown if Internet-based neck-specific exercises (NSEIT) may be as good for individuals with chronic whiplash associated disorders (WAD) as the same exercises performed for a longer exercise period at a physiotherapy clinic (NSE). NSE have earlier shown good results.

Research question: To compare if NSEIT (4 physiotherapy visits) was as good as NSE (2 times/ week for 3 months) in regards to self-rated and objective measurements.

Design: A randomized controlled trial in an outpatient setting.

Methods: 140 individuals with chronic WAD grade 2 or 3 participated in two different groups; NSEIT or NSE. Measurements were made at baseline, 3 months (end of treatment) and 15 months (1 year after end of treatment), include ratings of Neck Disability Index (NDI; primary outcome), and secondary outcomes of Whiplash Disability Questionnaire (WDQ), Patient-Specific Functional Scale (PSFS), Work Ability Scale, Dizziness Handicap Inventory, Euroqol five dimensions (EQ-5D) and ratings on a Visual Analogue Scale 0-100 mm for neck, arm and headache intensity (now, average, worst), dizziness (at rest and during motion) and balance. Measurements of active range of neck motion, neck muscle endurance and standing on one leg with eyes closed were performed as well.

Results: NSEIT was non inferior to NSE in primary and secondary outcomes, except for neck pain intensity and EQ-VAS, but post hoc analyses demonstrated no group differences. The primary outcome and most of the secondary outcomes were significantly improved in both groups ($p=.045$ to $p<.001$) with moderate to strong effect sizes.

Discussion: One may conclude that NSEIT was not inferior to NSE. Both groups significantly improved over time in most variables. Neck-specific exercises improve individuals with chronic WAD and NSEIT can be implemented in health care for a more flexible, available rehabilitation with fewer visits and thereby lower costs for healthcare.