

機械輔助肌力訓練對高齡衰弱長者的睡眠健康影響

Effects of a 12-Week Machine-assisted Strengthening Program on sleep health in Frail Older Adults

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Background and Purpose: We compared the effects of a 3-month machine-assisted strengthening program to traditional physical therapy according to composite insomnia symptoms related to falling and SATED questionnaire among community-dwelling frail older adults.

Methods: A randomized controlled trial included 59 frail older adults (mean age:78.0±8.2 years) in north-eastern Taiwan. The intervention group (N=31) underwent a 12-week machine-assisted strengthening program using SMARC system, performing twice-weekly sessions that targeting 8 muscle groups, while the control group (N=28) received traditional physical therapy. We reviewed the sleep health of the participants with self-reporting questionnaire, including composite insomnia symptoms related to falling and SATED scale.

Results: The control group showed no statistical significant change in SATED questionnaire and composite insomnia symptoms related to falling before and after traditional rehabilitation. The intervention group showed improvement in composite insomnia symptoms related to falling (-0.65±0.91, p<0.01). When focusing on individual insomnia symptoms, the intervention group showed statistical improvement on ‘trouble falling asleep’ (-0.13±0.34, p=0.04), ‘trouble with waking up during the night’(-0.29±0.46, p<0.01), and ‘trouble with waking up too early and not being able to fall asleep again’ (0.20±0.40, p=0.01).

Conclusions: Machine-assisted strengthening can improve the participants’ composite insomnia symptoms related to falling and individual aspects of insomnia. Larger-scale research is still needed for further understanding.

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