

July 2024

# NeuroBITE

## NEWSLETTER

Welcome to the July 2024 edition of our monthly NeuroBITE newsletter!

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We are thrilled to present this feature to our supporters and anyone intrigued by research on cognitive, behavioral, and other treatments for psychological challenges stemming from acquired brain impairment (ABI). Inside, you'll discover a curated list of compelling intervention studies recently added to the NeuroBITE database.

This month we highlight six Open Access articles ready for you to download in full, for free! Of particular interest in this issue is the diversity of research from all around the world. We have research from Qatar, Austria, Italy, South Korea, Canada, France, Spain, Iran, and the USA!

Happy reading!

### Dementia - Alzheimer's Disease, Mild Cognitive Impairment

Abd-Alrazaq, A., Alhuwail, D., Al-Jafar, E., Ahmed, A., Shuweihdi, F., Reagu, S. M., & Househ, M. (2022). The effectiveness of serious games in improving memory among older adults with cognitive impairment: systematic review and meta-analysis. *JMIR serious games*, 10(3), e35202.

**OPEN ACCESS**

### Dementia

Canazei, M., Papousek, I., & Weiss, E. M. (2022). Light intervention effects on circadian activity rhythm parameters and nighttime sleep in dementia assessed by wrist actigraphy: A systematic review and meta-analysis. *The Gerontologist*, 62(10), e614-e628. **OPEN ACCESS**

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## Stroke

Bressi, F., Cricenti, L., Campagnola, B., Bravi, M., Miccinilli, S., Santacaterina, F., Sterzi, S., Straudi, S., Agostini, M., Paci, M., Casanova, E., Marino, D., La Rosa, G., Giansanti, D., Perrero, L., Battistini, A., Filoni, S., Sicari, M., Petrozzino, S., . . . Aprile, I. (2022). Effects of robotic upper limb treatment after stroke on cognitive patterns: A systematic review. *NeuroRehabilitation*, 51(4), 541-558. **OPEN ACCESS**

Salatino, A., Zavattaro, C., Gammeri, R., Cirillo, E., Piatti, M. L., Pyasik, M., Serra, H., Pia, L., Geminiani, G., & Ricci, R. (2023). Virtual reality rehabilitation for unilateral spatial neglect: A systematic review of immersive, semi-immersive and non-immersive techniques. *Neuroscience and Biobehavioral Reviews*, 152(105248), 1-21. **OPEN ACCESS**

Shin, J., & Chung, Y. (2022). The effects of treadmill training with visual feedback and rhythmic auditory cue on gait and balance in chronic stroke patients: A randomized controlled trial. *NeuroRehabilitation*, 51(3), 443-453.

**PEDro-P score: 8/10**

## Traumatic Brain Injury

Cermak, C. A., McCabe, S. A., Kuchurean, B., Schaefer, J., Tendra, A., & Beal, D. S. (2022). Parent interventions improve behavior after pediatric traumatic brain injury: A systematic review and meta-analysis. *The Journal of Head Trauma Rehabilitation*, 37(5), 293-302.

Cordonier, N., Champagne-Lavau, M., & Fossard, M. (2023). Improved comprehension of irony and indirect requests following a severe traumatic brain injury: two case studies. *Aphasiology*, 1-27. **OPEN ACCESS**

**RoBiNT score: 11/30**



## Multiple Sclerosis

Redero, D., Lazaro, E., Vazquez, N., & Soria, C. (2023). Neuropsychological rehabilitation in patients with relapsing-remitting multiple sclerosis: A systematic review. *Applied Neuropsychology: Adult*, 1-9.

## Brain Infections

Etesami, M. S., Saboury, N., Mohraz, M., SeyedAlinaghi, S., Jones, D. L., Vance, D. E., & Asgarabad, M. H. (2022). Immediate and long-term effects of a computerized cognitive rehabilitation therapy on cognitive function in people living with HIV in Iran: A single-blind two-arm parallel randomized controlled trial. *JANAC: Journal of the Association of Nurses in AIDS Care*, 33(5), 505-522.

**PEDro-P score: 6/10**

## Non-specified Brain Impairment

Schaffer, K. M., Evans, W. S., Dutcher, C. D., Philburn, C., & Henry, M. L. (2021). Embedding aphasia-modified cognitive behavioral therapy in script training for primary progressive aphasia: A single-case pilot study. *American Journal of Speech-Language Pathology*, 30(5), 2053-2066. **OPEN ACCESS**



## Ratings

NeuroBITE also evaluates the methodological rigor (methodological quality) of primary studies that use a control condition to demonstrate the efficacy of a treatment. The primary studies involved are randomised controlled trials (RCTs), non-RCTs, and single-case experimental designs (SCEDs). Two method quality rating scales are used: the PEDro-P Scale to rate RCTs and nRCTs, and the Risk of Bias in N-of-1 Trials (RoBiNT) Scale to rate SCEDs. For more information, and to learn how to critically appraise studies using these scales, please visit our [Rating Information](#) and [Training](#) pages.

### **PEDro-P Scale**

The PEDro-P Scale consists of 11 items (10 of which contribute to the total score). Often, complex (behavioural) intervention studies can only score a maximum of 8/10 because it is difficult to meet criteria on the two PEDro items for blinding participants and blinding therapists given the nature of behavioural interventions. For score interpretation, by convention, a score of 6 or more on the PEDro Scale is considered to reflect 'moderate' or 'good' methodological quality.

### **RoBiNT Scale**

The RoBiNT Scale consists of two subscales: the Internal Validity (IV) Subscale (7 items) and the External Validity and Interpretation (EVI) Subscale (8 items). Items are rated on a 3-point scale (0-2), resulting in a maximum score of 14 for the IV Subscale, 16 for the EVI Subscale, and 30 for the total score. Score interpretation for the IV subscale, which reflects the methodological rigor (methodological quality) of a study, uses a validated algorithm, which is described in a supplement (Perdices, Tate & Rosenkoetter, 2019) to the RoBiNT Manual. The algorithm classifies the weighted scores of the seven IV Subscale items into six categories of methodological rigor, ranging from 'very high' to 'very low'.

