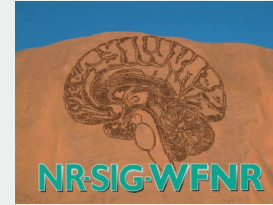


2024 Newsletter

NEUROPSYCHOLOGICAL REHABILITATION (NR-SIG)

Dear members and colleagues,

Welcome to the 2024 Newsletter of the NR-SIG of the WFNR, in which I bring you up-to-date with our recent activities and developments. This year the Researcher Spotlight (see p.4) shines on our Treasurer of many years, Professor Caroline van Heugten from Maastricht University, the Netherlands.



Last year was a big year for the NR-SIG because we celebrated the milestone event of the 20th annual NR-SIG conference which was held in Glasgow, Scotland on 7-9 June 2023. The highly successful meeting was co-convened by Anna Adlam and Jessica Fish. There were 224 delegates (163 in person; 61 online), with a rich programme of 131 presentations, including 25 platform presentations, 32 datablitz presentations, and 74 poster presentations. Three travel bursaries and five student assistant bursaries were awarded to enable recipients to attend the meeting.

Planning for the upcoming 21st NR-SIG conference is going well. The meeting, co-convened by Jessica Fish, Alexandra Rose and Ana Rita Silva, will be held in the charming and historic city of Coimbra, Portugal on 30 June and 1 July, 2024. The conference venue will be Vila Gale Coimbra and the conference dinner will be a sit-down buffet at the stylish Tertúlia d'Eventos. Located on the left bank of the Mondego, it combines an informal, elegant and comfortable atmosphere with a diverse buffet, focusing on the quality of Portuguese national products. We thank the Faculty of Psychology of the University of Coimbra, who have generously sponsored a traditional fado music group to perform as we sit down for dinner as an amazing welcome to Portugal and its culture! In addition, a DJ will also perform during the night as you mingle with guests after dinner service concludes. Please join us for what is sure to be a fantastic night out in Coimbra!

An exciting scientific programme is currently being prepared. More than 150 submissions were received, which have now been peer-reviewed. The opening address will be given by the NR-SIG Chair, Robyn Tate: *Fifty years of single-case research in neuropsychological Rehabilitation: a personal journey and a methodological review of the literature*. Registrations are now open (click on the link below).



21st annual NR-SIG Conference
30 June and 1 July, 2024, Coimbra, Portugal

<https://www.mersevents.com/annual-conferences/21st-nr-sig-wfnr>

NR-SIG Committee members



Robyn Tate
Chair



Michael
Perdices
Secretary



Caroline
van Heugten
Treasurer



Anna Adlam



Satu Baylan



Jonathan
Evans



Jessica Fish



Tamara
Ownsworth



Jennie
Ponsford



Kate
Gould
Social Media



Alexandra
Rose
Social Media



Amanda
Wisinger
Social Media

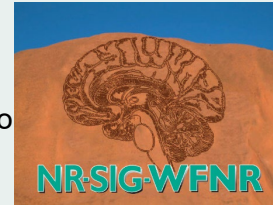


Margaret
Eagers
Admin & PCO



Matt Eagers
PCO

The **NR-SIG Social Media Team** continue their important work of promoting the NR-SIG and neurorehabilitation research. This was a new initiative of the NR-SIG which commenced in 2022. The three-member team tracks performance against four goals and have made substantial progress over the past two years. Twitter had been the main platform used to date, but since it evolved into 'X' it is a different and challenging environment in which to work and other platform options are currently being explored which may suit our needs better. We would like to increase the size of the Social Media Team, so if you are interested in joining our vibrant team, please contact me (robbyn.tate@sydney.edu.au).



You may be interested in some of the 2023 publications from the NR-SIG Committee:

- Brown L, **Fish J**, Mograbi DC, Ashkan K, Morria R. (2023). The self and self-knowledge after frontal lobe neurosurgical lesions. *Cortex*, 162, 12-25.
- Du X, Livingstone AG, **Adlam A**. (2023). Felt understanding as a bridge between social identity and wellbeing among international university students. *Journal of Community & Applied Social Psychology*, 1-18.
- **Gould KR**, Carolan M, **Ponsford JL**. (2023). Do we need to know about cyberscams in neurorehabilitation? A cross-sectional scoping survey of Australasian clinicians and service providers. *Brain Impairment*, 24(2), 229-244.
- McLaren DM, **Evans J**, **Baylan S**, Smith S, Gardani M. (2023). The effectiveness of the behavioural components of cognitive behavioural therapy for insomnia in older adults: a systematic review. *Journal of Sleep Research*, 32(4), e13843.
- **Owensworth T**, Chambers S, Jones S, Parker G, Aitken JF, Foote M, Gordon LG, ... Pinkham MB. (2023). Evaluation of the telehealth Making Sense of Brain Tumor psychological support intervention for people with primary brain tumor and their caregivers: A randomized controlled trial. *Psycho-Oncology*. 32:9, 1385-1394.
- **Perdices M**, **Tate RL**., Rosenkoetter U. (2023). An algorithm to evaluate methodological rigor and risk of bias in single-case studies. *Behavior Modification*, 47(6), 1482-1509.
- **Rose AE**, Cullen B, Crawford S, **Evans JJ**. (2023). A systematic review of mood and depression measures in people with severe cognitive and communication impairments following acquired brain injury. *Clinical Rehabilitation*, 37(5), 679-700.
- Verveen A, Verfaillie SCJ, Visser D, Csorba I, Coomans EM, Koch DW, Appelman B, Barkhof F, Boellaard R, de Bree G, van de Giessen EM, Golla S, **van Heugten CM**, ... van Berckel BNM. (2023). Neurobiological basis and risk factors of persistent fatigue and concentration problems after COVID-19: study protocol for a prospective case-control study (VeCosCO). *BMJ Open*, 13(6):e072611.

Upcoming conferences:

- 47th Annual Conference of the Australasian Society for the Study of Brain Impairment, 1-4 May 2024, Sydney, Australia; <https://mers.cventevents.com/blPgME>
- 13th World Congress for Neurorehabilitation, 22 - 25 May 2024, Vancouver, Canada; <https://wfnr-congress.org/>
- 21st Annual NR-SIG Conference 30 June-1 July, 2024, Coimbra, Portugal; <https://www.mersevents.com/annual-conferences/21st-nr-sig-wfnr>
- Global Neuropsychology Congress, 3-6 July 2024, Porto, Portugal; <https://www.globalneuropsychology.org>
- OPSYRIS 2024 (WFNR SIG re Organisation for Psychological Research into Stroke) conference, 12 July 2024, Bournemouth University, UK; <https://www.eventbrite.co.uk/e/opsyris-2024-tickets-736585385717>

WFNR Announcement

BDH – Otto Löwenstein RESEARCH AWARD 2024 in Neurorehabilitation, Neuropsychology and Psychopathology. Junior Scientist Prize. Closing date: 15 April 2024

FURTHER INFORMATION:

<https://www.bdh-reha.de/de/themen/wissenschaft-forschung-otto-loewenstein-preis.php>

Global, regional, and national burden of disorders affecting the nervous system, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021

GBD 2021 Nervous System Disorders Collaborators*

Summary

Background Disorders affecting the nervous system are diverse and include neurodevelopmental disorders, late-life neurodegeneration, and newly emergent conditions, such as cognitive impairment following COVID-19. Previous publications from the Global Burden of Disease, Injuries, and Risk Factor Study estimated the burden of 15 neurological conditions in 2015 and 2016, but these analyses did not include neurodevelopmental disorders, as defined by the International Classification of Diseases (ICD)-11, or a subset of cases of congenital, neonatal, and infectious conditions that cause neurological damage. Here, we estimate nervous system health loss caused by 37 unique conditions and their associated risk factors globally, regionally, and nationally from 1990 to 2021.

Methods We estimated mortality, prevalence, years lived with disability (YLDs), years of life lost (YLLs), and disability-adjusted life-years (DALYs), with corresponding 95% uncertainty intervals (UIs), by age and sex in 204 countries and territories, from 1990 to 2021. We included morbidity and deaths due to neurological conditions, for which health loss is directly due to damage to the CNS or peripheral nervous system. We also isolated neurological health loss from conditions for which nervous system morbidity is a consequence, but not the primary feature, including a subset of congenital conditions (ie, chromosomal anomalies and congenital birth defects), neonatal conditions (ie, jaundice, preterm birth, and sepsis), infectious diseases (ie, COVID-19, cystic echinococcosis, malaria, syphilis, and Zika virus disease), and diabetic neuropathy. By conducting a sequela-level analysis of the health outcomes for these conditions, only cases where nervous system damage occurred were included, and YLDs were recalculated to isolate the non-fatal burden directly attributable to nervous system health loss. A comorbidity correction was used to calculate total prevalence of all conditions that affect the nervous system combined.

Findings Globally, the 37 conditions affecting the nervous system were collectively ranked as the leading group cause of DALYs in 2021 (443 million, 95% UI 378–521), affecting 3.40 billion (3.20–3.62) individuals (43.1%, 40.5–45.9 of the global population); global DALY counts attributed to these conditions increased by 18.2% (8.7–26.7) between 1990 and 2021. Age-standardised rates of deaths per 100 000 people attributed to these conditions decreased from 1990 to 2021 by 33.6% (27.6–38.8), and age-standardised rates of DALYs attributed to these conditions decreased by 27.0% (21.5–32.4). Age-standardised prevalence was almost stable, with a change of 1.5% (0.7–2.4). The ten conditions with the highest age-standardised DALYs in 2021 were stroke, neonatal encephalopathy, migraine, Alzheimer's disease and other dementias, diabetic neuropathy, meningitis, epilepsy, neurological complications due to preterm birth, autism spectrum disorder, and nervous system cancer.

Interpretation As the leading cause of overall disease burden in the world, with increasing global DALY counts, effective prevention, treatment, and rehabilitation strategies for disorders affecting the nervous system are needed.



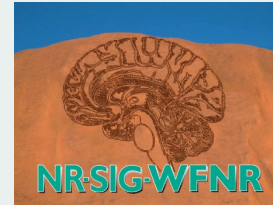
Lancet Neurol 2024

Published Online
March 14, 2024
[https://doi.org/10.1016/S1473-4420\(24\)00038-3](https://doi.org/10.1016/S1473-4420(24)00038-3)
See Online/Comment
[https://doi.org/10.1016/S1473-4420\(24\)00038-3](https://doi.org/10.1016/S1473-4420(24)00038-3)

See Online/Comment
[https://doi.org/10.1016/S1473-4420\(24\)00038-3](https://doi.org/10.1016/S1473-4420(24)00038-3)

*Collaborators listed at the end of the paper

Correspondence to:
Dr Janina Steinmetz, Institute for Health Metrics and Evaluation, University of Washington, Seattle, WA 98195, USA
jsteinmetz@uw.edu



Did you know?

An important publication on the Global Burden of Neurological Disorders – GBD 2021, has been recently circulated among the WFNR SIGs by Matilde Leonardi, Chair of the WFNR MAC-SIG. The article is published in The Lancet Neurology, 23(4), 344-381, [https://doi.org/10.1016/S1474-4422\(24\)00038-3](https://doi.org/10.1016/S1474-4422(24)00038-3)

As Matilde noted, “this is a crucial paper for neurology ... It has been written following the WHOIGAP of 2022 so has a special public health value and provides the estimates on the burden that as you see are more and more increasing so that neurological disorders in the GBD 2021 are the first cause of DALYs worldwide.”

Keep up-to-date with the neurorehabilitation literature with the new monthly newsletters from NeuroBITE!

<https://neurorehab-evidence.com/web/cms/news>

A new feature of NeuroBITE, the database of Neuro Behavioural Interventions and Treatment Evidence, is the introduction of monthly newsletters. The NeuroBITE team highlights some of the new content on the database in an easily digestible format. The newsletters are arranged according to relevant topics, with all featured RCTs, nRCTs and SCEDs rated for their method quality. Open Access articles are included where possible.

January 2024

NeuroBITE NEWSLETTER

Welcome to the second monthly NeuroBITE newsletter!

We are excited about bringing this new feature to our supporters, as well as anybody interested in research on cognitive, behavioural and other treatments for psychological problems and issues occurring as a consequence of acquired brain impairment (ABI). Here you can find a list of interesting intervention studies that have recently been added to NeuroBITE database.

Happy reading!

Mild TBI

Jennings, T., & Islam, M. S. (2023). Examining the interdisciplinary approach for treatment of persistent post-concussion symptoms in adults: a systematic review. *Brain Impairment*, 24, 290-308. **OPEN ACCESS**

Meusel, L.-A., Colella, B., Ruttan, L., Tartaglia, M. C., & Green, R. (2023). Preliminary efficacy and predictors of response to a remotely-delivered symptom self-management program for persistent symptoms after concussion. *Brain Injury*, 1-8. **OPEN ACCESS**

Pieniak, M., Seidel, K., Oleszkiewicz, A., Gellrich, J., Karpinski, C., Fitze, G., & Schriever, V. A. (2023). Olfactory training effects in children after mild traumatic brain injury. *Brain Injury*, 1-13.

Dementia

Munroe, P., Halaki, M., Lucombe, G., Kumfor, F., & Ballard, K. J. (2023). Phase 1 trial of the Mito-1 CoReNet (MIGCON) protocol: feasibility and effect of chair participation for individuals with cognitive impairment. *Brain Impairment*, 1-18. **OPEN ACCESS**

Robint score: 20/30

January 2024

Stroke

Kneebone, L. I., Munday, L., Van Zanden, B. E., Thomas, S., & Newton-John, T. (2023). Psychological interventions for post stroke pain: a systematic review. *Neuropsychological Rehabilitation*, 32(7), 1304-1324.

Leochino, C. F. D., Austria, E. M. V., Gettings, M. A. P., Ignácio, S. D., & Mojica, J. A. P. (2023). Home-based tele-rehabilitation for community-dwelling persons with stroke during the COVID-19 pandemic: A pilot study. *Journal of Rehabilitation Medicine*, 55, jrm4405. **OPEN ACCESS**

Osaki, S., Amimoto, K., Miyazaki, Y., Tanabe, J., & Yoshitomo, N. (2023). Effect of stimulation-driven attention in virtual reality balloon search training of patients with left unilateral spatial neglect after stroke: A randomized crossover study. *Neuropsychological Rehabilitation*, 1-21. **PEDro-P score: 8/10**

Sim, T. Y., & Kwon, J. S. (2022). Comparing the effectiveness of bimanual and unimanual mirror therapy in unilateral neglect after stroke: A pilot study. *NeuroRehabilitation*, 50(1), 133-141. **PEDro-P score: 6/10**

ABI (TBI, Stroke, Hypoxia, Tumour)

Ingelresten, S. M. H., Kinness, M., Srinastan, M. C., Hawley, L., Newman, J., & Subbaraj, J. (2023). Rehabilitation of social communication skills in patients with acquired brain injury with intensive and standard group interactive structured treatment: A randomized controlled trial. *Archives of Physical Medicine and Rehabilitation*, 104(7), 1016-1025. **OPEN ACCESS**

PEDro-P score: 6/10

Liu, Z., Zhang, X., Yu, B., Wang, J., & Lu, X. (2023). Effectiveness on level of consciousness of non-invasive neuromodulation therapy in patients with disorders of consciousness: A systematic review and meta-analysis. *Frontiers in Human Neuroscience*, 17, 1129254. **OPEN ACCESS**

January 2024

Robint

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-P 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-P 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.

My best wishes to you all and looking forward to seeing you in June at our NR-SIG Coimbra conference, **Robyn Tate, Chair, NR-SIG-WFNR** (robyn.tate@sydney.edu.au)

Researcher Spotlight: Professor Caroline van Heugten



Professor of Neuropsychology
Director of the Limburg Brain Injury Center
Department of Neuropsychology and
Psychopharmacology
Faculty of Psychology and Neuroscience
Maastricht University
Maastricht, the Netherlands

caroline.vanheugten@maastrichtuniversity.nl

Key Research Interests

The main topic of my research is neuropsychological interventions for persons with acquired brain injury such as stroke, traumatic brain injury and anoxic brain damage. My research focusses along the following three research lines: developing and evaluating instruments for measuring the outcome of neuropsychological interventions, clinical and cost-effectiveness of neuropsychological interventions and investigating factors influencing the outcome of neuropsychological interventions.

Summary of recent research

Within the first research line, we focus on the measurement of cognitive functioning along the spectrum from the artificial testing environment to spontaneous behavior in daily life. Objective and subjective cognitive functioning show discrepancies because daily life is much more complex and challenging than the test situation. Moreover, personal and environmental factors influence daily functioning, which is reflected in subjective reporting. We are therefore developing new and innovative ways to measure cognitive functioning and its influence on daily activities. On the one hand we are currently evaluating inter-individual variability in cognitive functioning by means of experience sampling methods. On the other hand, we are validating an observation instrument to assess cognition in daily life.

Within the second research line, we have developed and evaluated several psychotherapeutic techniques, which have shown to be effective in the general population but need to be adapted to be feasible after brain injury. One of these therapeutic techniques is Acceptance and Commitment Therapy (ACT), a third wave behavioral therapy. We adapted ACT for people with cognitive, communication and energy challenges after brain injury: BrainACT. In series of single case experimental designs (SCEDs) and in a national multicenter RCT we showed that BrainACT is feasible and effective in reducing depression and anxiety symptoms after injury.

The third research line is dedicated to factors influencing outcome after brain injury. One of those factors is fear avoidance behavior. The stressful and traumatic components of a brain injury may trigger fearful thoughts, which lead to catastrophizing about the brain injury, its consequences and expectations about recovery; this in turn leads to avoidance of activities. Fear avoidance behavior can be treated successfully with exposure therapy. We applied this treatment approach in people with persistent symptoms after a mild traumatic brain injury and found promising results.

What next?

The interplay of neurocognitive, personal and environmental factors defines the outcomes after brain injury, which is why we need biopsychosocial approaches tailored to the individual. For some people the direct consequences of the damage to the brain may explain how they perform while for others, the psychological reactions to the injury may be of more influence. What works for whom is the ultimate research question I would like to answer with my team of young talented researchers.