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How can we anticipate failure in resuming vocational training following brain injury? A retrospective study

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Introduction/Background Seventy-five percent of people with an acquired brain injury are of working age, most of them are young adults who want to return-to-work or need to resume a vocational training. However, a failure in returning to work/vocational training is associated with depression and isolation. Our aim was to identify objective measures to allow clinicians to anticipate failure in resuming vocational training following a brain injury.

Material and method Neuropsychological data from 343 patients with brain injury, who benefited from a vocational rehabilitation program (UEROS Lille, France) between 2002 and 2017, were retrospectively analyzed. After completing this program, 28 patients resumed a vocational training and we identified, through machine learning algorithms, the neuropsychological measures predicting vocational outcome.

Results Success in resuming vocational training after brain injury was predicted by mnemonic scores (verbal forgetting and visual retrieval). The scores obtained on the Tower of London test predicted both success and failure.

Conclusion Our study highlighted that neuropsychological measures underlying planning abilities could help clinicians to anticipate a failure in resuming vocational training in patients with brain injury. Planning and memory abilities would predict an effective vocational outcome. These initial results, that need to be confirmed with larger samples of patients with brain injury who resumed vocational training, may have a relevant implication for neuropsychological practice, allowing a better vocational guidance of these patients.

Keywords Vocational training; Brain injury; Machine learning

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Assessing the feasibility of delivering a combined cognitive and vocational intervention to individuals with traumatic brain injury in the southeastern region of Norway

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Introduction/Background Few studies have examined the effect of cross-sectorial collaboration on vocational outcomes, symptom burden, and quality of life following traumatic brain injury (TBI). In preparation for a larger scale randomized controlled trial (RCT), we assessed the feasibility of delivering a combined cognitive and vocational intervention to individuals with mild-to-moderate TBI in the southeastern region of Norway. The feasibility of the cognitive intervention is reported in this abstract.

Material and method Six patients received a manualized, group-based intervention targeting post-concussive and cognitive symptoms management (Compensatory Cognitive Training, CCT) in ten weekly sessions. In addition, all patients received individualized support at the work place (supported employment) for six months. Feasibility was assessed by exploring whether the CCT procedures were satisfactory in terms of recruitment and retention, satisfaction with the intervention, and treatment engagement (i.e. attendance, level of participation, ability to learn and apply strategies). The Therapist Checklist assessed level of participation and the CCT evaluation form assessed perceived helpfulness of the intervention.

Results Gender distribution was 1:1, mean age was 40 years, and mean years of education was 16 years. All participants had a diagnosis of concussion, were enrolled on average 4 months post-injury, and were sick-listed at range 70–100%. Attendance across CCT sessions was 97%. Eight out of nine topics in the CCT-intervention received a rating above 3.5 on a 5-point scale (i.e., towards very helpful). The topics receiving the highest ratings were information about TBI, post-concussive symptoms and fatigue, memory, learning, and prospective memory. All participants were rated as participating fully (3/6) or moderately (3/6), and most participants (5/6) attempted to apply skills to real-life situations.

Conclusion The results indicate that the CCT procedures were feasible, and no major adjustments were made to the protocol. Recruitment of participants to the full-scale RCT began in July 2017.

Keywords Traumatic brain injury; Vocational rehabilitation; Cognitive rehabilitation

Disclosure of interest The authors declare that they have no competing interest.

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