Ahn et al. (2017)

Study Characteristics	
Methods	**Design:** Randomized Controlled Trial **Duration of trial:** not reported **Recruitment and allocation:** participants were allocated to the IG or CG by throwing a coin **Method of blinding**: not reported **Cognitive domain**: executive functioning
Participants	**Setting:** not reported **Country:** Korea **Sample size:** *n* = 43, % men not reported; IG: *n* = 20; CG: *n* = 23 **Inclusion/exclusion criteria:** adults should be diagnosed with stroke and had to live in the community; a score of > 19 points on the Mini Mental Examination-Korean, no problems of verbal communication, and consented to the study **Age:** IG: *M* = 52.6 (SD 16.7) years; CG: *M* = 58.4 (SD 13.9) years **Time since onset of ABI:** IG: *M* = 31.1 (SD 26.5) months; CG: *M* = 42.2 (SD 32.8) months **Types of ABI:** chronic hemiparetic stroke
Interventions	Intervention group **Brief name**: Cognitive Orientation to daily Occupational Performance (CO-OP) **What (materials)**: CO-OP approach described by Polatajko (2001) **What (procedure)**: Participants set a goal, and the therapist guided them with the "Goal- Plan- Do- Check" strategy to achieve this goal. **Who**: researchers who completed a CO-OP international seminar training **How**: not reported, but appeared to be face-to-face and individually **Where**: not reported **When and how much**: 12 sessions Control group **Brief name**: conventional occupational therapy

	What (materials): not reported **What (procedure)**: therapists decided which treatment activity was provided based on the functional level of participants to achieve the set goals. **Who**: not reported **How**: not reported, but appeared to be face-to-face and individually **Where**: not reported **When and how much**: 12 sessions
Outcomes	**Primary:** none reported **Secondary:** ***ICF-domain Activities:*** • Proxy rating: Performance Quality Rating Scale (PQRS) – trained task 1, trained task 2, and untrained task (therapist rating) • Self-reporting: Canadian Occupational Performance Measure (COPM) – trained task 1, trained task 2, and untrained task (patient rating) ***ICF-domain Participation*:** none reported ***ICF-domain Functionality*:** none reported ***ICF-domain Personal*:** none reported **Methods of data collection:** outcome measurement was performed by researchers with > 6 years of clinical experience; blinding of outcome assessment not reported **Data collection time points:** baseline and post-treatment
Notes	**Funding**: none stated **Conflict of interest**: none reported **Published trial protocol:** none reported **Trial registration:** yes **Ethics approval:** yes

Risk of Bias

Bias	**Authors' Judgement**	**Support of Judgement**
Random sequence generation (selection bias)	Low risk	Participants were allocated to the IG or CG by throwing a coin.

Allocation concealment (selection bias)	Unclear risk	Not reported
Blinding of participants and personnel (performance bias)	Unclear risk	The authors only described that "the blind method" was used to randomly assign participants to the interventions to avoid influencing the intervention outcomes. However, the authors did not describe what they meant by the "blind method" and how it was used in the study. Staff would also have been aware of which intervention participants were receiving.
Blinding of outcome assessment (detection bias)	Unclear risk	Not reported
Incomplete outcome data (attrition bias)	Low risk	Two participants dropped out in the IG, but given the sample size of the study, this is negligible
Selective reporting (reporting bias)	Low risk	Study is registered in the trial register
Other bias	Unclear risk	Little information was given about the demographics of either group, e.g. related to type of stroke

Bergquist et al. (2009)

Study Characteristics	
Methods	**Design:** Randomized cross-over study **Duration of trial:** not reported **Recruitment and allocation:** Participants were randomized using a randomization number table (by controlling for age and education) **Method of blinding**: measures were administered by a blinded psychometrist **Cognitive domain**: Memory
Participants	**Setting:** not reported **Country:** USA **Sample size:** *n* = 14, 50% men; IG: *n* = 6; CG: *n* = 8 **Inclusion criteria:** a history of moderate to severe brain injury (defined as documentation in medical records of at least one of the following: Glasgow coma scale of less than 13, post-traumatic amnesia of 24 hours or greater, or evidence on neuroimaging studies of brain injury-related abnormalities); at least 1 year prior to the study enrolment; sixth grade reading level (as assessed on the Wide Range Achievement Test, third edition (WRAT-3)); memory impairment (defined as impaired if any memory sub-test of the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) was a z-score of -1.0 or lower) **Exclusion criteria:** no reliable access to the internet; could not learn to reliably log into the IM system after 2 hours of training; or if they were experiencing psychotic symptoms **Age:** *M* = 48 years; IG: *M* = 42 (range: 22 - 61) years; CG: *M* = 48 (range: 23 to 60) years **Time since onset of ABI:** > 1 year post-injury, not reported in more detail **Types of ABI:** moderate to severe TBI, not reported in more detail
Interventions	Intervention group **Brief name**: active calendar acquisition intervention

	What (materials): three-step calendar acquisition method described by Sohlberg and Mateer (1989), by using a digital instant messaging (IM) system **What (procedure)**: Participants logged into the IM system during a training session and used their time with a therapist to become proficient at using the calendar system to compensate for memory problems. Therapy focused on developing calendar skills to address difficulties with memory in day-to-day life and developing strategies to improve memory functioning in identified aspects of day-to-day life. **Who**: therapist **How**: online and individually **Where**: online via the IM system **When and how much:** 2-3 times a week (30 sessions) <u>Control group</u> **Brief name**: control dairy intervention **What (materials)**: IM system and a calendar **What (procedure)**: participants were asked to use their calendar as a log to keep track of their daily events and occurrences, but they were not instructed in how to use their calendar as a compensatory tool. During the online therapy sessions, participants had to review their calendar use since the last therapy session to review what occurred in the intervening time. **Who**: therapist **How**: online and individually **Where**: online via the IM system **When and how much**: 2-3 times a week (30 sessions)
Outcomes	**Primary:** ***ICF-domain Activities:*** • <u>Proxy rating</u>: Memory sub-scale from the Neurobehavioral Functioning Inventory (NFI) (proxy rating) • <u>Self-reporting</u>: Memory sub-scale from the NFI (patient rating) ***ICF-domain Personal:***

	• Proxy rating: Depression sub-scale from the NFI (proxy rating) • Self-reporting: Depression sub-scale from the NFI (patient rating) **Secondary:** ***ICF-domain Participation*:** Community Integration Questionnaire (CIQ) ***ICF-domain Functionality*:** none reported **Methods of data collection:** measurements were taken by a blinded psychometrician, who did not participate in other aspects of the study and was blind to the type of intervention of the participants. **Data collection time points:** baseline and post-treatment
Notes	**Funding**: yes **Conflict of interest**: none reported **Published trial protocol:** none reported **Trial registration:** no **Ethics approval:** no

Risk of Bias

Bias	**Authors' Judgement**	**Support of Judgement**
Random sequence generation (selection bias)	Low risk	Participants were allocated to the IG or CG by a random number table (controlling for age and education)
Allocation concealment (selection bias)	Unclear risk	Not reported
Blinding of participants and personnel (performance bias)	Unclear risk	During the final evaluation session, each participant was informed about the nature of the study, which makes it likely that the participant was not aware of the treatment allocation. However, it is plausible that the staff/therapists were aware of the treatment allocation.
Blinding of outcome assessment (detection bias)	Low risk	Measurements were taken by a blinded psychometrician, who did not participate in other aspects of the study and was blind

		to the type of intervention of the participants.
Incomplete outcome data (attrition bias)	Low risk	Not reported, but it is likely that the assigned participants described in the study were also analysed
Selective reporting (reporting bias)	Low risk	Study is registered in the trial register
Other bias	Unclear risk	Little information was given about the demographics of either group, e.g. related to type of TBI or time since injury

Doornhein & De Haan (1998)

Study Characteristics	
Methods	**Design:** Randomized Controlled Trial **Duration of trial:** not reported **Recruitment and allocation:** method of randomization not reported **Method of blinding**: not reported **Cognitive domain**: Memory
Participants	**Setting:** in-patient rehabilitation **Country:** The Netherlands **Sample size:** *n* = 12, % men not reported; IG: *n* = 6; CG: *n* = 6 **Inclusion criteria:** memory deficits that could be demonstrated on routine neuropsychological assessment (a Dutch version of the Rey Auditory Learning Test) **Exclusion criteria:** deficits that could interfere with the training programme, such as severe aphasia, apraxia, or agnosia **Age:** IG: *M* = 51.3 (SD 18.3) years; CG: *M* = 51.7 (SD 10.8) years **Time since onset of ABI:** 3-5 months post-stroke, not reported in more detail **Types of ABI:** Stroke
Interventions	Intervention group **Brief name**: memory strategy training **What (materials)**: memory strategy training described by Berg and colleagues (1991;1993), including a workbook for homework assignments **What (procedure)**: at first, an inventory was made of the most frequent/important subjective memory problems experienced by the participant in daily life. Then, the strategies described by Berg were explained with a main focus on the mnemonics association and organisation strategy, and then the strategies were applied to the individual situation. **Who**: not reported **How**: face-to-face and individually **Where**: not reported **When and how much**: 2 times a week, for 4 weeks (8 sessions)

	Control group **Brief name**: pseudo-treatment (control) group **What (materials)**: drill and practice exercises **What (procedure)**: participants were instructed to pay more attention and spend more time repeating the material. **Who**: not reported **How**: not reported, but appeared to be face-to-face and individually **Where**: not reported **When and how much**: 2 times a week, for 4 weeks (8 sessions)
Outcomes	**Primary:** none reported **Secondary:** ***ICF-domain Activities:*** • Subjective: Memory Questionnaire ***ICF-domain Participation*:** none reported ***ICF-domain Functionality*:** • Memory: Name-face; Stylus Maze; California Verbal Learning Test (CVLT); Recurring faces ***ICF-domain Personal*:** none reported **Methods of data collection:** data collection was not blind, evaluation was done by the same person who carried out the training sessions **Data collection time points:** baseline and post-treatment
Notes	**Funding**: none stated **Conflict of interest**: not reported **Published trial protocol:** none reported **Trial registration:** no **Ethics approval:** no

Risk of Bias

Bias	**Authors' Judgement**	**Support of Judgement**
Random sequence generation (selection bias)	Unclear risk	Method of randomization not reported
Allocation concealment (selection bias)	Unclear risk	Not reported

Blinding of participants and personnel (performance bias)	Unclear risk	Blinding or not was not reported but it was apparent that participants could have known which group they were assigned to. Staff would also have been aware of the treatment allocation.
Blinding of outcome assessment (detection bias)	Unclear risk	Data collection was not blind, evaluation was done by the same person who carried out the training sessions
Incomplete outcome data (attrition bias)	Low risk	Not reported, but it is likely that the assigned participants described in the study were also analysed
Selective reporting (reporting bias)	Unclear risk	No published trial protocol or study registration
Other bias	Low risk	No other concerns

Emmanouel et al. (2020)

Study Characteristics	
Methods	**Design:** Randomized Controlled Trial **Duration of trial:** not reported **Recruitment and allocation:** block randomization per groups of four (two CG and two IG) took place by lot. Due to lack of time and difficulties in finding four new patients, the last two patients were randomised by tossing a coin. Lots were drawn blindly by a physiotherapist who was not involved in the study. **Method of blinding**: participants were allocated to either the IG or CG by a blinded physiotherapist not involved in the study; rating scales were completed by the physiotherapists blind to treatment allocation. **Cognitive domain**: executive functioning
Participants	**Setting:** outpatient rehabilitation **Country:** Greece **Sample size:** *n* = 18, 66.7% men; IG: *n* = 9; CG: *n* = 9 **Inclusion criteria:** baseline score of less than six correct sequential steps on each of two multistep everyday tasks; executive difficulties in everyday activities during sessions of physiotherapy and speech therapy as measured by Spikman's Checklist of Executive Disorders; acquired brain injury documented by CT and/or MRI with a post-onset period of at least 4 months. **Exclusion criteria:** severe aphasia; visual neglect; severe psychiatric problems; neurodegenerative disorders; a history of substance abuse; and with respect to post-surgery patients, subjects with sudden seizures and loss of consciousness prior to surgery were also excluded. **Age:** IG: *M* = 33.6 (SD 7.9) years; CG: *M* = 36.0 (SD 10.1) years **Time since onset of ABI:** *M* = 12.1 (SD 10.2) (range: 4 – 46) months **Types of ABI:** TBI: *n* = 11; stroke: *n* = 1; surgery for an aneurysm: *n* = 1; surgically resected brain tumours: *n* = 5
Interventions	Intervention group **Brief name**: Goal Management Training (GMT) + Working Memory Training (WMT)

	What (materials): visual cue cards **What (procedure)**: Information about executive functions using everyday examples, introduction of GMT algorithm, and appliance of the framework to training task 1A. Then the WM strategy was integrated, and participants repeatedly practiced how to internalise the strategies. **Who**: examiner **How**: not reported, but appeared to be face-to-face and individually **Where**: outpatient department and at patients' homes **When and how much**: 30-minute sessions, 3-4 times a week, for 3-4 weeks (11 sessions) (5,5 hours in total) <u>Control group</u> **Brief name**: Working Memory Training (WMT) **What (materials)**: not reported **What (procedure)**: nine-step training (1. Repeat the current information, 2. Keep it in mind, 3. Go 1 activity back, 4. Repeat together the previous and current information, 5. Hold them in mind, and 6. Decide what to do, 7. Say the outcome and 8. Repeat it internally, 9. Keep it until the next action), aimed at improving the performance in two real-life scenarios that engage working memory skills. **Who**: examiner **How**: not reported, but appeared to be face-to-face and individually **Where**: outpatient department and at patients' homes **When and how much**: 30-minute sessions, 3-4 times a week, for 3-4 weeks (11 sessions) (5,5 hours in total)
Outcomes	**Primary:** ***ICF-domain Activities:*** • <u>Proxy rating</u>: Multistep everyday task – percentage of correct steps for task 1 and task 2 **Secondary:** ***ICF-domain Activities:***

	• Proxy rating: Executive Observation Scale (EOS) (therapist rating) • Proxy rating: Dysexecutive Questionnaire (DEX) (therapist rating) • Self-reporting: DEX (patient rating) ***ICF-domain Participation*:** Role Resumption List (RRL) ***ICF-domain Functionality*:** • Working memory: Letter-number sequencing; corsi block tapping; 2-back task; digit span (forwards and backwards) • Memory: Rey Auditory Verbal Learning Test (RAVLT) (learning and long delay recall); Rey-Osterrieth Complex Figure (immediate and delayed recall) • Executive functioning: Trail Making Test (TMT) B/A; Stroop Interference; Wisconsin Card Sorting Test (WCST) (no of categories completed and no of perseverative answers); verbal fluency; Behavioural Assessment of the Dysexecutive Syndrome (BADS) (rule shifting; action program; key search; zoo map test; modified six elements test) ***ICF-domain Personal*:** none reported **Methods of data collection:** rating scales were completed by the physiotherapists blind to treatment allocation. **Data collection time points:** baseline and post-treatment
Notes	**Funding**: none stated **Conflict of interest**: none reported **Published trial protocol:** none reported **Trial registration:** no **Ethics approval:** yes

Risk of Bias

Bias	**Authors' Judgement**	**Support of Judgement**
Random sequence generation (selection bias)	Low risk	Block randomization per groups of four (two CG and two IG) took place by lot. Due to lack of time and difficulties in finding four new patients, the last two patients were randomised by tossing a coin

Allocation concealment (selection bias)	Low risk	Lots were drawn blindly by a physiotherapist who was not involved in the study.
Blinding of participants and personnel (performance bias)	Unclear risk	The training sessions of the IG and CG were given by the examiner-trainer of the study. Also, it is highly likely that participants were aware of treatment allocation.
Blinding of outcome assessment (detection bias)	Low risk	Rating scales were completed by the physiotherapists blind to treatment allocation. All tests, observation lists and questionnaires administered by the examiner before training, were also given directly after training by a second, independent neuropsychologist who was blind for treatment allocation.
Incomplete outcome data (attrition bias)	Low risk	All assigned participants described in the study were also analysed.
Selective reporting (reporting bias)	Unclear risk	No published study protocol or trial registration
Other bias	Low risk	No other concerns

Gracey et al. (2016)

Study Characteristics	
Methods	**Design:** Randomized controlled cross-over study **Duration of trial:** february 2009 – august 2011 **Recruitment and allocation:** participants were randomized to either the IG or CG for intervention phase 1 by block randomization; allocation remained concealed until the researcher delivering the interventions requested the next participant allocation code **Method of blinding**: assessments and primary analyses were conducted blinded to group allocation **Cognitive domain**: executive functioning
Participants	**Setting:** United Kingdom (UK) community services **Country:** UK **Sample size:** *n* = 70, 65.7% men; IG: *n* = 36; CG: *n* = 34 **Inclusion criteria:** age ≥ 18 years; nonprogressive brain injury; more than 1 year postinjury; clinician, carer or self-reported everyday organization and memory problems; able to use a mobile phone **Exclusion criteria:** memory impairment of sufficient severity to limit retention of intentions and training information (clinical judgement and neuropsychological assessment); patient or carer participant with severe and enduring mental health problems; substance misuse or dependence **Age:** IG: *M* = 47.8 (SD 14.7) years; CG: *M* = 49.8 (SD 12.9) years **Time since onset of ABI:** IG: *M* = 5 (SD 5.03) years; CG: *M* = 9.15 (8.7) years **Types of ABI:** TBI: *n* = 33; stroke: *n* = 23; infection: *n* = 3; tumour: *n* = 10; missing: *n* = 1
Interventions	<u>Intervention group</u> **Brief name**: Assisted Intention Monitoring (AIM) **What (materials)**: brief version of a Goal Management Training (GMT) protocol described by Levine and colleagues, and presented on a laptop as a PowerPoint presentation with an accompanying workbook.

	What (procedure): information was given about the following topics: utility of setting goals and breaking goals into steps, absentmindedness and slip-ups, using the mental blackboard, checking the status of one's intentions. After training they received eight "stop" texts each day **Who**: qualified occupational therapist and a co-author of the GMT material who provided supervision **How**: face-to-face and individually **Where**: participant's homes or a community setting **When and how much**: 90-120 minutes sessions, 2 times a week, duration varied depending on knowledge and abilities participant (3 weeks) <u>Control group</u> **Brief name**: Information and games **What (materials)**: PowerPoint to present information and a visuospatial game (i.e. Tetris) **What (procedure)**: general information about brain injury was presented using PowerPoint and a game, named Tetris, was played **Who**: qualified occupational therapist and a co-author of the GMT material who provided supervision **How**: face-to-face and individually **Where**: participant's homes or a community setting **When and how much**: 90-120 minutes sessions, 2 times a week, duration varied depending on knowledge and abilities participant (3 weeks)
Outcomes	**Primary:** none reported **Secondary:** ***ICF-domain Activities:*** • <u>Subjective</u>: Overall intention attainment ***ICF-domain Participation*:** none reported ***ICF-domain Functionality*:** none reported ***ICF-domain Personal*:** • <u>Mood subjective</u>: The Profile of Mood States (POMS MD) **Methods of data collection:** assessments and primary analyses were conducted blinded to group allocation

	Data collection time points: baseline and post-treatment (after phase 1)	
Notes	**Funding**: yes **Conflict of interest**: none reported **Published trial protocol:** none reported **Trial registration:** yes **Ethics approval:** yes	
Risk of Bias		
Bias	**Authors' Judgement**	**Support of Judgement**
Random sequence generation (selection bias)	Low risk	Participants were randomized to either the IG or CG for intervention phase 1 by block randomization
Allocation concealment (selection bias)	Low risk	Allocation remained concealed until the researcher delivering the interventions requested the next participant allocation code
Blinding of participants and personnel (performance bias)	Unclear risk	Allocations were not revealed to participants. The staff who administered both interventions was aware of treatment allocation
Blinding of outcome assessment (detection bias)	Low risk	Assessments and primary analyses were conducted blinded to group allocation
Incomplete outcome data (attrition bias)	Low risk	Authors performed an intention-to-treat and per-protocol analysis
Selective reporting (reporting bias)	Low risk	Study is registered in the trial register
Other bias	Unclear risk	Baseline differences in demographics of the groups, e.g. the CG had a significantly longer time post-injury and a significantly higher employment status

Kaschel et al. (2002)

Study Characteristics	
Methods	**Design:** Randomized Controlled Trial **Duration of trial:** not reported **Recruitment and allocation:** method of randomization was not reported. **Method of blinding**: some therapists were kept blind to the control-group design rationale. **Cognitive domain**: memory
Participants	**Setting:** not reported **Country:** Germany **Sample size:** *n* = 21, 76.4% men; IG: *n* = 9; CG: *n* = 12 **Inclusion criteria:** referred for rehabilitation of memory problems; age 20-60 years; brain damage documented by CT or MRI; > 6 months following onset; score equal or less than normal on the Rivermead Behavioural Memory Test (RBMT) and the prose memory test; able to follow-up participant without any break for seven months. **Exclusion criteria:** severe memory problems (RMBT < 12); overt aphasia; neglect; hemianopia; apraxia; agnosia; psychiatric history; chronic drug abuse; progressive brain disorder and cognitive impairment; affective disorder; self-rating score of 30 in the Beck Depression Inventory (BDI); deficits in generation of mental images; memory problems of secondary importance compared to other impairments. **Age:** IG: *M* = 36.6 (range: 21 - 55) years; CG: *M* = 41.9 (range: 27 - 55) years **Time since onset of ABI:** IG: *M* = 60 (range: 6 - 301) months; CG: *M* = 65 (range: 14 - 22) months **Types of ABI:** closed head injury: *n* = 12; CVA: *n* = 7; encephalitis: *n* = 1; arachnoid cyst: *n* = 1
Interventions	Intervention group **Brief name**: imagery-based training **What (materials)**: simple objects and actions were presented on a video screen with different difficulty levels.

	What (procedure): First stage: motivation for imagery training, rapid generation of images of objects, and generation and retrieval of images of simple actions. In a second stage of training, this skill was transferred to target problems in daily life. **Who**: psychologist **How**: face-to-face and individually **Where**: participating centres **When and how much**: 70-90 minutes sessions, 3 times a week, for 10 weeks (30 sessions) <u>Control group</u> **Brief name**: pragmatic memory training **What (materials)**: for some elements computer programs were used **What (procedure)**: each participant received different interventions, and were taught a variety of internal and external strategies. **Who**: psychologist **How**: face-to-face and individually **Where**: participating centres **When and how much**: 70-90 minutes sessions, 3 times a week, for 10 weeks (30 sessions)
Outcomes	**Primary:** none reported **Secondary:** ***ICF-domain Activities:*** • <u>Proxy rating</u>: Memory Assessment Clinics Rating Scale (MAC-F) (proxy rating) • <u>Self-reporting</u>: Memory Assessment Clinics Rating Scale (MAC-S) (patient rating) ***ICF-domain Participation*:** none reported ***ICF-domain Functionality*:** • <u>Attention</u>: D2 • <u>Memory</u>: Appointments test (immediate and delayed recall); Wechsler Memory Scale (WMS); Rivermead Behavioural Memory Test (profile score; story immediate and delayed)

	***ICF-domain Personal*: none reported** **Methods of data collection:** not reported **Data collection time points:** baseline and post-treatment	
Notes	**Funding**: none stated **Conflict of interest**: not reported **Published trial protocol:** none reported **Trial registration:** no **Ethics approval:** no	
Risk of Bias		
Bias	**Authors' Judgement**	**Support of Judgement**
Random sequence generation (selection bias)	Unclear risk	Method of randomization not reported
Allocation concealment (selection bias)	Unclear risk	Not reported
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding or not was not reported but it was apparent that participants could have known which group they were allocated to. Only some therapists were kept blind to the design rationale of the control group.
Blinding of outcome assessment (detection bias)	Unclear risk	Not reported
Incomplete outcome data (attrition bias)	Low risk	Three patients dropped out due to changes in the rehabilitation process, high compliance or staff changes in the collaborating centres. Two centres also withdrew their participation at the beginning of the trial, resulting in another three dropouts, but given the sample size and the reason for drop-out, this is negligible.
Selective reporting (reporting bias)	Unclear risk	No published study protocol or trial registration

Other bias	Unclear risk	Baseline differences between both groups on the MAC-S, CG had higher scores at baseline than the IG

McPherson et al. (2009)

Study Characteristics	
Methods	**Design:** Randomized Controlled Trial **Duration of trial:** not reported **Recruitment and allocation:** a randomisation schedule was established by block randomisation by an independent researcher who was not involved in delivering the intervention **Method of blinding**: an initial information session was held with all key workers to provide an overview of the interventions. So the staff was aware of the intervention they were administering to participants. Participants would also have been aware of which treatment they were receiving. Progress on the outcome measure was self-completed by participants at the end of the training and at follow-up **Cognitive domain**: executive functioning
Participants	**Setting:** neurorehabilitation units **Country:** New Zealand **Sample size:** *n* = 34, 78.3% men; IG GMT: *n* = 12; IG IOGT: *n* = 10; CG: *n* = 12 **Inclusion criteria:** moderate to severe trauma (post-traumatic amnesia > 1 hour and moderate disability on the Extended Glasgow Outcome Scale); rehabilitation at any of the three neurorehabilitation providers; key worker agreed to deliver the intervention with the support of the researchers **Exclusion criteria:** persistent coma (Glasgow Coma Scale on screening of <8); severe cognitive or communication; unstable medical health **Age:** IG GMT: *Median* = 29 (range: 18 - 48) years; IG IOGT: *Median* = 28 (range: 21 - 68) years; CG: *Median* = 40 (range: 19 - 56) years **Time since onset of ABI:** IG GMT: *Median* = 5 (range: 1 – 31) years; IG IOGT: *Median* = 5 (range: 2 – 29) years; CG: *Median* = 7 (range: 1 - 30) years **Types of ABI:** Traumatic Brain Injury (TBI)
Interventions	Intervention group no. 1 **Brief name**: Goal Management Training (GMT)

What (materials): GMT protocol
What (procedure): once a specific goal failure was elicited by the participant, the individual steps involved in preventing such a failure were listed, again in partnership with the participant. Subsequent sessions were spent learning the steps involved in carrying out the activity, progressing to participate once no errors were noted
Who: participants' key worker, who was trained in intervention delivery
How: face-to-face and individually
Where: not reported
When and how much: session duration varied depending on individual requirements (not longer than 2 hours), once a week, 6-8 weeks (6-8 sessions)

<u>Intervention group no. 2</u>
Brief name: Identity Oriented Goal Training (IOGT)
What (materials): an identity map was used for intervention delivery
What (procedure): a six-step process to aid identity mapping process, not reported in more detail
Who: participants' key worker, who was trained in intervention delivery
How: face-to-face and individually
Where: not reported
When and how much: session duration varied depending on individual requirements (not longer than 2 hours), once a week, 6-8 weeks (6-8 sessions)

<u>Control group</u>
Brief name: usual care
What (materials): not reported
What (procedure): usual rehabilitation plan including an extra session to complete the Goal Attainment Scale (GAS)
Who: participants' key worker

	How: not reported, but appeared to be face-to-face and individually **Where**: not reported **When and how much**: not reported
Outcomes	**Primary:** none reported **Secondary:** ***ICF-domain Activities:*** • Subjective: Goal Attainment Scale (GAS) (patient rating) ***ICF-domain Participation*:** none reported ***ICF-domain Functionality*:** none reported ***ICF-domain Personal*:** none reported **Methods of data collection:** participants filled in the GAS **Data collection time points:** baseline, post-treatment and at 3 months follow-up
Notes	**Funding**: yes **Conflict of interest**: none reported **Published trial protocol:** yes **Trial registration:** no **Ethics approval:** yes

Risk of Bias

Bias	**Authors' Judgement**	**Support of Judgement**
Random sequence generation (selection bias)	Low risk	A randomisation schedule was established by block randomisation by an independent researcher who was not involved in delivering the intervention
Allocation concealment (selection bias)	Low risk	The randomisation schedule was then sent to a second independent researcher who managed the allocation
Blinding of participants and personnel (performance bias)	Unclear risk	An initial information session was held with all key workers to provide an overview of the interventions. So the staff was aware of the intervention they were administering to participants. Participants would also have been aware of which treatment they were receiving.

Blinding of outcome assessment (detection bias)	Low risk	Progress on the outcome measure was self-completed by participants at the end of the training and at follow-up
Incomplete outcome data (attrition bias)	High risk	Two participants in the IG GMT and two in the IG IOGT withdrew after allocation. Another three participants in the IG IOGT dropped out after one session, resulting in five participants in the IG IOGT. One more participant also dropped out of the control group.
Selective reporting (reporting bias)	Low risk	The methodology used in the study was previously outlined
Other bias	Unclear risk	No analysis plan was included in the method section

Miotto et al. (2009)

Study Characteristics	
Methods	**Design:** counterbalanced cross-over design **Duration of trial:** not reported **Recruitment and allocation:** group allocation was pseudo-random in the sense that the initial allocation to groups of half of the participants was random, with the second half allocated to ensure that the groups matched in terms of age, education, time since injury and performance on basic key neuropsychological tests **Method of blinding**: not reported **Cognitive domain**: executive functioning
Participants	**Setting:** outpatient rehabilitation **Country:** Brazil **Sample size:** *n* = 20, 50% men; IG: *n* = 10; CG: *n* = 10 **Inclusion criteria:** deficit in at least one measure of executive functioning; evidence that everyday functioning was significantly affected by the cerebral lesion **Exclusion criteria:** history of psychiatric disorders or neurodegenerative conditions **Age:** *M* = 41.7 (SD 9.7) years **Time since onset of ABI:** *M* = 2.4 (SD 1.04) years **Types of ABI:** Brain tumour removal: *n* = 23; TBI: *n* = 7 (a total of 30 participants participated across three groups, but for the sake of this review only 20 participants spread over two groups were included)
Interventions	Intervention group **Brief name**: Attention and Problem Solving (APS) **What (materials)**: self-monitoring sheets; electronic reminding systems (watch/alarms/pagers); external memory aids (diaries/checklists) **What (procedure)**: Participants are first informed about brain injury and their consequences; then internal and external strategies are trained (containing GMT concepts); and problem solving strategies are taught.

	Who: two professionals (one to deliver the training; other to monitor each persons' behaviour **How**: face-to-face and in a group **Where**: not reported, but appeared to be in the rehabilitation centre **When and how much**: 90 minutes sessions, once a week, for 10 weeks (10 sessions) Control group **Brief name**: Information/ Education (IE) **What (materials)**: educational material in a booklet form **What (procedure)**: participants got the instruction to read the booklet as carefully as possible and try to apply the exercises suggested **Who**: not reported **How**: not reported, but also appeared to be face-to-face and in a group **Where**: not reported, but appeared to be in the rehabilitation centre **When and how much**: not reported
Outcomes	**Primary:** none reported **Secondary:** ***ICF-domain Activities:*** • Proxy rating: Multiple Errands Test (MET) • Proxy rating: Dysexecutive Questionnaire (DEX) (therapist rating) • Self-reporting: DEX (patient rating) ***ICF-domain Participation*:** none reported ***ICF-domain Functionality*:** • Memory: Digit span; WMS (logical memory – immediate recall and delayed recall; visual reproduction – immediate recall and delayed recall) • Executive functioning: WCST (no of categories completed); verbal fluency; virtual planning Test • Speed of processing: digit symbol ***ICF-domain Personal*:** none reported **Methods of data collection:** three examiners, not more details reported

	Data collection time points: baseline and post-treatment (before cross-over took place)	
Notes	**Funding**: none stated **Conflict of interest**: not reported **Published trial protocol:** none reported **Trial registration:** no **Ethics approval:** no	
Risk of Bias		
Bias	**Authors' Judgement**	**Support of Judgement**
Random sequence generation (selection bias)	Unclear risk	Group allocation was pseudo-random in the sense that the initial allocation to groups of half of the participants was random, with the second half allocated to ensure that the groups matched in terms of age, education, time since injury and performance on basic key neuropsychological tests.
Allocation concealment (selection bias)	Unclear risk	Not reported
Blinding of participants and personnel (performance bias)	Unclear risk	Not reported, however, participants would have been given an information sheet explaining the nature of the study. Staff would also have been aware of the treatment allocation.
Blinding of outcome assessment (detection bias)	Unclear risk	Not reported
Incomplete outcome data (attrition bias)	Low risk	Not reported, but it is likely that the assigned participants described in the study were also analysed
Selective reporting (reporting bias)	Unclear risk	No published study protocol or trial registration
Other bias	Low risk	No other concerns

Novakovic-Agopian et al. (2011)

Study Characteristics	
Methods	**Design:** pseudo-random cross-over design **Duration of trial:** not reported **Recruitment and allocation:** not reported **Method of blinding**: evaluators were aware of the treatment condition, but evaluators and therapists were separate individuals **Cognitive domain**: executive functioning
Participants	**Setting:** Not reported, but appeared to be outpatient rehabilitation **Country:** USA **Sample size:** *n* = 16, % men not reported; IG: *n* = 8; CG: *n* = 8 **Inclusion/exclusion criteria:** not reported **Age:** IG: *M* = 49 (SD 12.1) years; CG: *M* = 51.6 (SD 13.2) years **Time since onset of ABI:** > 6 months, not reported in more detail **Types of ABI:** TBI: *n* = 11; CVA: *n* = 3; brain tumour: *n* = 1; leukoencephalopathy: *n* = 1
Interventions	<u>Intervention group</u> **Brief name**: goal-oriented attentional self-regulation training **What (materials)**: audio tape from a traditional mindfulness-based stress-reduction course provided by University of California **What (procedure)**: mindfulness-based attention regulation training emphasized in the first half of the intervention and GMT strategies applied to participant defined goals emphasized in the second half of the intervention. **Who**: trainers, not reported in more detail **How**: face-to-face, individually and in a group **Where**: medical centre **When and how much**: 2 hour sessions (10 sessions) of group training; 1 hour sessions (3 sessions) of individual training, for five weeks (13 sessions) <u>Control group</u> **Brief name**: educational instruction session **What (materials)**: not reported **What (procedure)**: didactic instruction regarding brain injury **Who**: same trainers as in the IG

	How: not reported **Where**: medical centre **When and how much**: one 2 hour session
Outcomes	**Primary:** none reported **Secondary:** ***ICF-domain Activities:*** none reported ***ICF-domain Participation*****:** none reported ***ICF-domain Functionality*****:** • Working memory: working memory subdomain score (incl. letter number sequencing; auditory consonant trigrams) • Executive functioning: mental flexibility subdomain score (incl. verbal fluency; design fluency; TMT-B; Stroop inhibition/switching) and inhibition subdomain score (incl. Stroop inhibition) • Memory: memory subdomain score (incl. Hopkins verbal learning test – total recall and delayed recall; brief visuospatial memory test – total recall and delayed recall) • Speed of processing: processing subdomain score (incl. TMT-A; visual attention test - reaction time) ***ICF-domain Personal*****:** none reported **Methods of data collection:** evaluator not unaware of group allocation **Data collection time points:** baseline and post-treatment (before cross-over)
Notes	**Funding**: none stated **Conflict of interest**: none reported **Published trial protocol:** not reported **Trial registration:** no **Ethics approval:** yes

Risk of Bias

Bias	**Authors' Judgement**	**Support of Judgement**
Random sequence generation (selection bias)	Unclear risk	Method of randomization not reported

Allocation concealment (selection bias)	Unclear risk	Not reported
Blinding of participants and personnel (performance bias)	Unclear risk	Not reported, however, participants would have been given an information sheet explaining the nature of the study. Staff would also have been aware of the treatment allocation.
Blinding of outcome assessment (detection bias)	High risk	Evaluators were aware of group allocation
Incomplete outcome data (attrition bias)	Low risk	84% of participants completed the protocol
Selective reporting (reporting bias)	Unclear risk	No published study protocol or trial registration
Other bias	Unclear risk	Only neuropsychological tests were used to measure the efficacy, and no measures at the level of activities and participation were included

Polatajko et al. (2012)

Study Characteristics	
Methods	**Design:** Randomized Controlled Trial **Duration of trial:** not reported **Recruitment and allocation:** method of randomization not reported **Method of blinding**: blinding was not possible because the use of the PQRS and the COPM was inherent to the intervention. The treating therapists conducted these assessments before and after both interventions. **Cognitive domain**: Executive functioning
Participants	**Setting:** not reported, but appeared to be outpatient rehabilitation **Country:** Canada **Sample size:** n = 8, 42.1% men; IG: n = 4; CG: n = 4 **Inclusion/exclusion criteria:** > 6 months poststroke; living in the community; a National Institutes of Health Stroke Scale (NIHSS) score of 13 or less; an IQ score of 80 or more; no more than minimal aphasia. **Age:** M = 60.4 years **Time since onset of ABI:** > 6 months post-stroke **Types of ABI:** stroke
Interventions	<u>Intervention group</u> **Brief name**: Cognitive Orientation to daily Occupational Performance (CO-OP) **What (materials)**: CO-OP approach described by Polatajko (2001) **What (procedure)**: Participants set a goal, and the therapist guided them with the "Goal- Plan- Do- Check" strategy to achieve this goal. **Who**: experienced occupational therapists **How**: not reported, but appeared to be face-to-face and individually **Where**: not reported **When and how much**: 1-hour sessions (10 sessions) <u>Control group</u>

	Brief name: conventional occupational therapy **What (materials)**: not reported **What (procedure)**: participants set a goal, and the therapist suggested exercises and tasks to support the clients' achievement of the goals. **Who**: experienced occupational therapists **How**: not reported, but appeared to be face-to-face and individually **Where**: not reported **When and how much**: 1-hour sessions (10 sessions)
Outcomes	**Primary:** none reported **Secondary:** ***ICF-domain Activities:*** • Proxy rating: Performance Quality Rating Scale (PQRS) (therapist rating) • Self-reporting: Canadian Occupational Performance Measure (COPM) (patient rating) ***ICF-domain Participation*:** none reported ***ICF-domain Functionality*:** none reported ***ICF-domain Personal*:** none reported **Methods of data collection:** treating therapists conducted assessments before and after both interventions. **Data collection time points:** baseline and post-treatment
Notes	**Funding**: yes **Conflict of interest**: not reported **Published trial protocol:** none reported **Trial registration:** no **Ethics approval:** no, only internal review board approval

Risk of Bias

Bias	**Authors' Judgement**	**Support of Judgement**
Random sequence generation (selection bias)	Unclear risk	Method of randomization not reported
Allocation concealment (selection bias)	Unclear risk	Not reported

Blinding of participants and personnel (performance bias)	Unclear risk	Not reported, but the IG and CG training sessions were given by a therapist trained for the study. It is also very likely that participants were aware of the treatment allocation.
Blinding of outcome assessment (detection bias)	Unclear risk	Blinding was not possible because the use of the PQRS and the COPM was inherent to the intervention. The treating therapists conducted these assessments before and after both interventions.
Incomplete outcome data (attrition bias)	High risk	Seven participants withdrew from the IG and five participants from the CG; although those who completed the study (n = 8) and those who withdrew (n = 12) did not differ in age, gender or NIHSS scores, those who withdrew had significantly worse scores on a number of neuropsychological tests, in particular those measuring memory, task switching and vocabulary.
Selective reporting (reporting bias)	Unclear risk	No published study protocol or trial registration
Other bias	Low risk	No other concerns

Potvin et al. (2011)

Study Characteristics	
Methods	**Design:** experimental design with repeated measures **Duration of trial:** not reported **Recruitment and allocation:** participants were assigned to the IG or CG according to their age and education in order to match the two groups **Method of blinding**: not reported **Cognitive domain**: memory
Participants	**Setting:** not reported **Country:** Canada **Sample size:** *n* = 30, 62.5% men; IG: *n* = 10; CG: *n* = 20 **Inclusion criteria:** aged between 18 - 55 years; French speakers; a moderate to severe TBI diagnosed by a neurosurgeon over a year before (chronic phase); inferior results (< - 1 SD) on the PM ecological test; reporting problems on everyday PM functioning; being independent for basic activities but experiencing difficulties with complex ones. **Exclusion criteria:** premorbid psychiatric or neurological conditions; systematic diseases; substance abuse problems; premorbid learning disabilities or major auditory; visual, language or motor deficits. **Age:** IG: *M* = 35 (SD 10.82) years; CG: *M* = 30.9 (SD 10.47) years **Time since onset of ABI:** IG: *M* = 43.4 (SD 23.35) months; CG: *M* = 34 (18.17) months **Types of ABI:** moderate to severe TBI
Interventions	Intervention group **Brief name**: Prospective Memory (PM) rehabilitation program **What (materials)**: PowerPoint to present exercises **What (procedure)**: program was divided in five phases: (1) understanding PM functioning; (2) training to visualise simple images (objects and actions); (3) learning visual imagery techniques; (4) applying visual imagery in PM; (5) applying visual imagery in everyday situations **Who**: examiner, not reported in more detail

	How: not reported, but appeared to be face-to-face and individually **Where**: at medical centre or at participants' homes **When and how much**: 90-minutes sessions, once a week, for 10 weeks (10 sessions) <u>Control group</u> **Brief name**: conventional neuropsychological intervention **What (materials)**: not reported **What (procedure)**: brief educational intervention during which the examiner presented various behavioural and cognitive compensatory strategies using a short document that was given to participants at the end to take home. **Who**: examiner who did the pre- and post-treatment evaluations **How**: not reported, but appeared to be face-to-face and individually **Where**: not reported, but appeared to be at the medical centre **When and how much**: one session
Outcomes	**Primary:** none reported **Secondary:** ***ICF-domain Activities:*** • <u>Proxy rating</u>: Comprehensive Assessment of Prospective Memory (CAPM) (therapist rating) • <u>Self-reporting:</u> CAPM (patient rating) ***ICF-domain Participation*:** none reported ***ICF-domain Functionality*:** • <u>Working memory</u>: Brown Peterson Task (total score); digit span (forward and backward) • <u>Memory</u>: Sullivan logical memory (immediate and delayed recall); Rey Auditory Verbal Learning Test (RAVLT; immediate and delayed recall); Brief Visuospatial Memory Test (BVMT; immediate and delayed recall); Test Écologique de Mémoire Prospective (TEMP) • <u>Executive functioning</u>: Verbal fluency; Mazes; Stroop (interference and flexibility); TMT B-A

	• Speed of processing: Digit symbol; TMT-A • Attention: Cancellation task ***ICF-domain Personal*:** Mood: Beck Depression Inventory-II (BDI-II); Beck Anxiety Inventory (BAI-II) **Methods of data collection**: at medical centre or at participants' homes **Data collection time points:** baseline and post-treatment (CG: 3 months later, same time frame as IG)
Notes	**Funding**: none stated **Conflict of interest**: not reported **Published trial protocol:** none reported **Trial registration:** no **Ethics approval:** no

Risk of Bias

Bias	**Authors' Judgement**	**Support of Judgement**
Random sequence generation (selection bias)	Unclear risk	No randomized trial design, participants were assigned to the IG or CG according to their age and education in order to match the two groups
Allocation concealment (selection bias)	Unclear risk	Not reported
Blinding of participants and personnel (performance bias)	Unclear risk	Not reported, but the evaluation session ended with a brief educational intervention (i.e. CG) by the examiners, so the staff was aware of group allocation. Participants would also have been aware of group allocation
Blinding of outcome assessment (detection bias)	Unclear risk	Not reported
Incomplete outcome data (attrition bias)	Low risk	Not reported, but it is likely that the assigned participants described in the study were also analysed
Selective reporting (reporting bias)	Unclear risk	No published study protocol or trial registration

Other bias	Low risk	No other concerns

Shum et al. (2011)

Study Characteristics	
Methods	**Design:** Randomized Controlled Trial **Duration of trial:** January 2004 – December 2006 **Recruitment and allocation:** restricted randomization with blocking **Method of blinding**: outcome assessment was performed by a psychologist intern who was blind to group allocation **Cognitive domain**: memory
Participants	**Setting:** outpatient rehabilitation **Country:** Australia **Sample size:** n = 23, 87% men; IG: n = 12; CG: n = 11 **Inclusion criteria:** moderate or severe TBI (Glasgow Coma Scale (GSC) of 13 or less, or post-traumatic amnesia of 24 hours or more, cerebral contusion or haemorrhage on CT or MRI); aged between 18 - 60 years; able to communicate in English; ambulant or independently mobile in manual or electric wheelchair; a significant other available to participate in the study; no prior head injury or hypoxic injury **Exclusion criteria:** severe behavioural problem; low-level arousal; severe amnesia; significant communication deficits; visual impairments preventing diary use; pre-morbid psychiatric and/or neurological disorder **Age:** IG: *Median* = 23.5 (25^{th} – 75^{th} range: 21.25 – 33) years; CG: *Median* = 24 (25^{th} – 75^{th} range: 20 – 29) years **Time since onset of ABI:** IG: *Median* = 348 (25^{th} – 75^{th} range: 187.25 – 544.75) days; CG: *Median* = 194 (25^{th} – 75^{th} range: 172 – 294) days **Types of ABI:** TBI
Interventions	Intervention group **Brief name**: Self-Awareness (S-A) plus compensatory prospective memory training **What (materials)**: video clips of others with TBI interviewed about their PM failures; memory lapse records; standardized simulation scenarios.

	What (procedure): two week self-awareness training (to improve insight into PM problems) plus six-weeks compensatory PM training (to train strategies such as use of a dairy; time management; steps for writing reminders; appointments and note-taking). **Who**: trained researcher **How**: face-to-face and individually **Where**: at the university clinic **When and how much**: 1.5-hour sessions, once a week, for 8 weeks (8 sessions) <u>Control group</u> **Brief name**: Active control **What (materials)**: standardized, written week-by-week procedures, but not reported in more detail **What (procedure)**: not reported **Who**: trained researcher **How**: face-to-face and individually **Where**: at the university clinic **When and how much**: 1.5-hour sessions, once a week, for 8 weeks (8 sessions)
Outcomes	**Primary:** none reported **Secondary:** ***ICF-domain Activities:*** • <u>Proxy rating</u>: Comprehensive Assessment of Prospective Memory (CAPM) (therapist rating) ***ICF-domain Participation*:** none reported ***ICF-domain Functionality*:** • <u>Memory</u>: Cambridge Test of Prospective Memory (CAMPROMPT) ***ICF-domain Personal*:** none reported **Methods of data collection:** outcome assessment was performed by a psychologist intern who was blind to group allocation **Data collection time points:** baseline and post-treatment
Notes	**Funding**: yes **Conflict of interest**: not reported

	Published trial protocol: none reported **Trial registration:** yes **Ethics approval:** yes	
Risk of Bias		
Bias	**Authors' Judgement**	**Support of Judgement**
Random sequence generation (selection bias)	Low risk	Restricted randomization with blocking was used.
Allocation concealment (selection bias)	Low risk	Allocation was concealed through the selection of one-sided numbered cards, by a researcher blind to assessment results
Blinding of participants and personnel (performance bias)	Unclear risk	The researcher implementing intervention was a qualified occupational therapist blind to participants' pre-assessment results, however it is highly likely that the therapist would have been aware of the treatment they delivered. Also the participants would have been aware of which treatment they received.
Blinding of outcome assessment (detection bias)	Low risk	Outcome assessment was performed by a psychologist intern who was blind to group allocation
Incomplete outcome data (attrition bias)	Low risk	Intention-to-treat analysis, all participants were analysed
Selective reporting (reporting bias)	Low risk	Study is registered in the trial register
Other bias	Low risk	No other concerns

Tornås et al. (2016)

Study Characteristics	
Methods	**Design:** Randomized Controlled Trial **Duration of trial:** not reported **Recruitment and allocation:** randomization was carried out by lot **Method of blinding**: participants were blinded to the condition considered to be the active treatment; assessors were also blind at all assessment points **Cognitive domain**: executive functioning
Participants	**Setting:** outpatient rehabilitation **Country:** Norway **Sample size:** *n* = 70, 54.3% men; IG: *n* = 31; CG: *n* = 36 **Inclusion criteria:** non-progressive ABI; > 6 months post-injury; ongoing executive dysfunction (by self-report and/or neuropsychological assessment); between 18 - 67 years **Exclusion criteria:** major psychiatric diseases; ongoing substance abuse; neurodegenerative disorders; severe cognitive problems interfering with the capacity to participate in the program **Age:** IG: *M* = 42.12 (SD 13.72) years; CG: *M* = 43.57 (SD 12.39) years **Time since onset of ABI:** IG: *M* = 106.9 (SD 126.8) months; CG: *M* = 81.5 (SD 98.1) months **Types of ABI:** TBI: *n* = 45; stroke: *n* = 15; tumour: *n* = 6; anoxic: *n* =2; other: *n* = 2
Interventions	Intervention group **Brief name**: Goal Management Training (GMT) **What (materials)**: Protocol script (accompanying PowerPoint slides); text messaging system; workbook for homework assignments **What (procedure)**: introduction to key concepts of GMT such as awareness of internal and external states; the importance of goals; defining and splitting goals in subtasks; checking. Mindfulness based exercises; emotional regulation module how thoughts to learn how to use the “stop” technique. **Who**: the primary investigator led all groups, with assistance of a skilled co-therapist

	How: face-to-face and in groups of 5 to 7 participants **Where**: not reported, but appeared to be in the rehabilitation hospital **When and how much**: 2-hour sessions, once per two weeks, for 8 weeks (4 sessions) Control group **Brief name**: Brain Health Workshop (BHW) **What (materials)**: Protocol script (accompanying PowerPoint slides); text messaging system; workbook for homework assignments **What (procedure)**: the sessions addressed brain function and dysfunction, brain plasticity, memory, EF, and attention Stress, physical exercise, sleep, nutrition, and energy management were given particular attention **Who**: the primary investigator led all groups, with assistance of a skilled co-therapist **How**: face-to-face and in groups of 5 to 7 participants **Where**: not reported, but appeared to be in the rehabilitation hospital **When and how much**: 2-hour sessions, once per two weeks, for 8 weeks (4 sessions)
Outcomes	**Primary:** none reported **Secondary:** ***ICF-domain Activities:*** • Proxy rating: Hotel Task; UCSD Performance Based Skills Assessment UPSA) • Self-reporting: DEX (patient rating); Cognitive Failure Questionnaire (CFQ) (patient rating); Behavioural Rating Inventory of Executive Functioning (BRIEF-A) (patient rating) ***ICF-domain Participation*:** none reported ***ICF-domain Functionality*:** • Executive functioning: Conners Continuous Performance Test (CPT; commission errors); Stroop (inhibition and

	inhibition/flexibility); verbal fluency; Tower test (total achievement score) • Speed of processing: CPT (reaction time) ***ICF-domain Personal*:** none reported **Methods of data collection:** the assessors were blind for group allocation at all assessment points **Data collection time points:** baseline, post-treatment and 6-months follow-up
Notes	**Funding**: yes **Conflict of interest**: none reported **Published trial protocol:** none reported **Trial registration:** no **Ethics approval:** yes

Risk of Bias

Bias	**Authors' Judgement**	**Support of Judgement**
Random sequence generation (selection bias)	Low risk	Randomization was carried out by lot
Allocation concealment (selection bias)	Low risk	Following baseline assessment of enrolled participants, an envelope was drawn for each participant to determine group allocation. The person responsible for randomisation was not involved in the study
Blinding of participants and personnel (performance bias)	Unclear risk	Participants were blinded to the condition considered to be the active treatment. However, it is likely that the therapists delivering the interventions would have been aware of the treatment allocation
Blinding of outcome assessment (detection bias)	Low risk	The assessors were blind for group allocation at all assessment points
Incomplete outcome data (attrition bias)	Low risk	Two dropouts in the IG and one in the CG, but given the sample size of the study, this is negligible

Selective reporting (reporting bias)	Unclear risk	No published study protocol or trial registration
Other bias	Unclear risk	Baseline difference in demographic information, e.g. vocational status was significantly lower in the CG than in the IG

Winkens et al. (2009)

Study Characteristics	
Methods	**Design:** Randomized Controlled Trial **Duration of trial:** not reported **Recruitment and allocation:** participants were randomized to either the IG or CG by a random assignment list **Method of blinding**: participants were randomized to either the IG or CG by a random assignment list; measurements were done by a research assistant who was unaware of the allocation of participants **Cognitive domain**: speed of processing
Participants	**Setting:** inpatient and outpatient rehabilitation **Country:** The Netherlands **Sample size:** *n* = 35, 58% men; IG: *n* = 19; CG: *n* = 16 (at follow-up: *n* = 34, IG: *n* = 18; CG: *n* = 16) **Inclusion criteria:** > 3 months post-stroke; referred for cognitive rehabilitation for mental slowness **Exclusion criteria:** < 18 years; < 3 months post-stroke; very severe or disabling premorbid or current (continuing) pathologic conditions; or such severe cognitive, communication, physical, or psychologic problems that the patient was unable to perform the tasks based on the clinical judgment of the treating team. **Age:** IG: *M* = 49.5 (SD 8) years; CG: *M* = 53.9 (SD 11.1) years **Time since onset of ABI:** IG: *M* = 19.3 (SD 29.6) months; CG: *M* = 6.9 (SD 5.4) months **Types of ABI:** stroke
Interventions	Intervention group **Brief name**: Time Pressure Management (TPM) **What (materials)**: TPM protocol including (audio-taped) exercises, role plays, and real-life situations **What (procedure)**: Initial aim was to enhance participants awareness that mental slowness is a critical problem; the second stage focuses on the acceptance and acquisition of the TPM strategy; the last stage focuses on generalization of the learned strategy **Who**: a trainer who received a 3-hour course

	How: not reported, but appeared to be face-to-face and individually **Where**: at the participating rehabilitation centres **When and how much**: 1, 1.5 or 2-hour sessions, once a week, for 10 weeks (10 sessions) <u>Control group</u> **Brief name**: Care-as-usual **What (materials)**: content of care varied because eight different centres participated in the study **What (procedure)**: most centres restricted their training to giving education about brain damage, speed of processing and its consequences for daily functioning; giving practical hints and advices how to deal with the consequences. One centre gave actual practice training more similar to TPM (i.e. training patients in performing tasks while using compensation strategies). **Who**: trainers who did not provide the TPM training **How**: not reported, but appeared to be face-to-face and individually **Where**: at the participating rehabilitation centres **When and how much**: 1, 1.5 or 2-hour sessions, once a week, for 10 weeks (10 sessions)
Outcomes	**Primary:** ***ICF-domain Activities:*** • <u>Proxy rating</u>: Mental Slowness Observation Test (MSOT) **Secondary:** ***ICF-domain Activities:*** • <u>Proxy rating</u>: Information Intake Task (IIT – reproduction score) • <u>Self-reporting</u>: Mental Slowness Questionnaire (MSQ) (patient rating) ***ICF-domain Participation*:** none reported ***ICF-domain Functionality*:** none reported ***ICF-domain Personal*:** none reported **Methods of data collection:** measurements were done by a research assistant who was unaware of the allocation of participants; success of blinding was checked afterwards

	Data collection time points: baseline, post-treatment and at 3 months follow-up	
Notes	**Funding**: yes **Conflict of interest**: none reported **Published trial protocol:** none reported **Trial registration:** none reported **Ethics approval:** yes	
Risk of Bias		
Bias	**Authors' Judgement**	**Support of Judgement**
Random sequence generation (selection bias)	Low risk	Participants were randomized to either the IG or CG by a random assignment list
Allocation concealment (selection bias)	Low risk	After selection and recruitment, an independent person used the random assignment list to assign the patients to the IG or the CG
Blinding of participants and personnel (performance bias)	Unclear risk	At the start of the study, each participating centre decided which trainer was responsible for the IG (TPM treatment). This trainer received a course in TPM. Other trainers were responsible for the care-as-usual. Participants would also have been aware of treatment allocation
Blinding of outcome assessment (detection bias)	Low risk	Measurements were done by a research assistant who was unaware of the allocation of participants. Success of blinding was checked afterwards
Incomplete outcome data (attrition bias)	Low risk	Two participants dropped out in the IG and one in the CG, but given the sample size of the study, this is negligible
Selective reporting (reporting bias)	Unclear risk	No published study protocol or trial registration
Other bias	Unclear risk	Participants in the control group received different treatments as eight different centres participated and the content of

	usual care varied. There were also baseline differences in the time since injury between both groups.