The role of dynamic testing in predicting rehabilitation outcome in elderly stroke patients

No registrations found.

Ethical review	Positive opinion
Status	Recruitment stopped
Health condition type	-
Study type	Observational non invasive

Summary

ID

NL-OMON23982

Source
NTR

Brief title
DYNAMITES

Health condition

stroke, neuropsychology, treatment outcome, rehabilitation, aged (65 and over)

Sponsors and support

Primary sponsor: Zuyderland Medical Center
Source(s) of monetary or material Support: None

Intervention

Outcome measures

Primary outcome

Cognitive learning potential as measured by the dynamic Wisconsing Card Sorting Test (dWCST) and the dynamic Clock Drawing Test (dCDT) . The Utrecht Scale for Evaluation of clinical Rehabilitation (USER) will be used to measure rehabilitation outcome.

Secondary outcome

The Visual Association test (VAT) is a measure for memory.
The Montreal Cognitive Assessment (MoCA) is a measure of global cognitive functioning.
The Geriatric Depression Scale (GDS) a selfreport questionnaire and it is a screener for depressive symptoms.
Demographic variables such as gender, age and educational status (based on Verhage) are collected as part of regular health care and will be obtained from the medical and psychological record. The following injury related factors are also collected as part of regular healthcare and will be obtained from the medical record: time since brain injury, type of injury (ischemic stroke vs hemorrhagic stroke) and the duration of the geriatric rehabilitation program.

Study description

Background summary

Rationale: During rehabilitation patients need to relearn old skills, learn new skills and learn to cope with disability. Dynamic testing, a specific type of neuropsychological assessment, examines the effects of brief training on test performance and aims to measure the patients' learning potential.

Objective: The current study investigates the use of dynamic testing in elderly stroke patients and examines whether a dynamic measure of cognitive learning potential has additional value in predicting rehabilitation outcome. In this study the dynamic Wisconsin Card Sorting Test (dWCST) and a newly developed dynamic version of the Clock Drawing Task (dCDT) will be compared in terms of feasibility and validity for measuring cognitive learning potential in elderly stroke patients.

Study design: A prospective longitudinal observational design will be used.

Study population: Patients admitted to the geriatric rehabilitation unit of Zuyderland Medisch Centrum (location Sittard) who are diagnosed with a stroke.

Main study parameters/endpoints: 60 participants will complete the dWCST and the dCDT. The Utrecht Scale for Rehabilitation (USER) measures functional outcome and is the independent variable. To investigate the validity of the dynamic tests general psychometric properties and three different learning potential indices will be examined. Hierarchical regression analyses will be used to investigate the added value of dynamic testing in predicting rehabilitation outcome, after controlling for age, ADL dependency at admission, global cognitive functioning (MoCA), memory function (VAT) and depression (GDS-15). In addition to the data collection for answering the main research questions, 30 participants will merely complete a repeated version of the Clock Drawing Task (rCDT), in order to differentiate between learning potential versus practice effects.

Nature and extent of the burden and risks associated with participation, benefit and group relatedness: The burden for the participants is low. For as much as possible data will be used that already is collected as a part of regular health care. The USER is filled out by a trained member of the nursing staff and therefore concerning the USER there is no burden for the participants. For Sample 1 (N=60) the administration of extra tests will take approximately 1,5 hour in total. For Sample 2 (N=30) the only additional test is the rCDT, this will take approximately 5 minutes. As with the regular neuropsychological assessment it is possible that participants experience mild feelings of frustration or anxiety. Given the observational nature of the study there are no risks for the participants. Possible benefit to the participants is that they may feel positively about themselves because they have helped contribute to the generation of new knowledge which is important for the care of elderly stroke patients.

Study objective

It is expected that the dynamic version of the Wisconsin Card Sorting Test (dWCST) is a valid measure of cognitive learning potential in terms of psychometric properties and construct validity. In terms of feasibility it is anticipated that the duration of the assessment of the dWCST will be substantial (approximately 60 minutes) and therefore less suitable for the elderly population.
Since the dynamic version of the Clock Drawing Task (dCDT) is a newly developed test procedure, current research is exploratory. It is estimated that the feasibility in terms of duration time is acceptable (less than 15 minutes). Therefore, in terms of feasibility (i.e. duration time) it is expected that the dCDT is most appropriate for the elderly population. Whether the dCDT can measure cognitive learning potential and which of these two dynamic tests (i.e. dCDT, dWCST) will be most valid in measuring cognitive learning potential will be investigated in the current exploratory study

Study design

T 0 : USER will be filled out in the week of admission to rehabilitation unit
T 1: MoCA, dCDT, dWCST, VAT, GDS-15 (approximately 2-3 weeks after admission to rehabilitation unit)
T2: USER will be filled out in week of discharge (variable for each participant and dependent on duration of rehabilitation)

Intervention

Not applicable.

Contacts

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Eligibility criteria

Inclusion criteria

In order to be eligible to participate in this study, patients must meet the following criteria:
1) diagnosis of stroke based on medical records and objectified by a neurologist.
2) sufficient command of the Dutch language based on clinical judgement.
3) informed consent.

Exclusion criteria

A potential participant will be excluded based on clinical judgement, in case of:
1) severe aphasia
2) current psychiatric disorder and/or substance abuse
3) a diagnosis of degenerative brain disease, such as objectified dementia present before stroke.
4) minimally conscious state

Study design

Design

Study type:	Observational non invasive
Intervention model:	Other
Allocation:	Non controlled trial
Masking:	Open (masking not used)
Control:	N/A , unknown

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	09-09-2019
Enrollment:	90
Type:	Actual

IPD sharing statement

Plan to share IPD: No

Ethics review

Positive opinion

Date:	10-08-2019
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
NTR-new	NL7947
Other	METC Z (Zuyderland en Zuyd Hogeschool) : METC Z 096

Study results