

Supplemental Material

Supplementary table S1: The intervention illustrated by main features from the Template from intervention Description and Replication (TIDieR) Checklist and Guide

Brief name: Intensive speech and language therapy by videoconference

Why: To improve expressive language function in patients with aphasia after stroke

What: Intensive speech and language therapy with an emphasis on naming. The therapy will be tailored to the participant's language impairment level and focus on expressive language and everyday communication. Material used in the training will include the Newcastle University Aphasia Therapy Resources (NUMA), a collection of SLP-made tasks for aphasia compiled as *Sareptas afasikrukke* and Lexia (computer-based training program). In addition, text and pictures from the Internet may also be used

Who provided: Speech and language pathologists sited at Sunnaas Rehabilitation Hospital. Speech-language pathologists (SLPs) will receive training in how to give intervention by videoconference within the context of a clinical trial

How: Using videoconference and remote control software to a laptop at the patient's location

Where: From Sunnaas Rehabilitation Hospital to the patient's home or institution, e.g., rehabilitation ward or nursing home

When/How much: The experimental intervention consists of 5 h of speech and language therapy a week, over 4 weeks (total dose of 20 h of therapy). Participants with ≥ 16 sessions over 32 days will be considered to be per protocol

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Table S2: Features of the telerehabilitation intervention and usual care received during the trial

Intervention description	Telerehabilitation group n=30	Control group n=27
Brief name of intervention	Augmented therapy by videoconference and usual care therapy	Usual care therapy
Who provided therapy, n (%):		
Only therapist in municipality	0	16 (59.3 %)
Only therapist in rehabilitation institution	0	2 (7.4 %)
Only therapist in municipality + therapist in rehabilitation institution	0	9 (33.3 %)
Only project therapist at Sunnaas Rehabilitation Hospital	2 (6.7 %)	0
Project therapist at Sunnaas Rehabilitation Hospital + therapist in municipality	22 (73.3 %)	0
Project therapist at Sunnaas Rehabilitation Hospital, therapist in municipality + therapist in rehabilitation institution	6 (20.0 %)	0
Modes of delivery, n (%):		
Only Individual therapy face-to-face	0	16 (59.3 %)
Only Group therapy face-to face	0	1 (3.7 %)
Individual + group therapy face-to face	0	10 (37.0 %)
Only therapy by videoconference	2 (6.7 %)	0
Therapy by videoconference + individual therapy face-to-face	20 (66.7 %)	0
Therapy by videoconference, individual and group therapy face-to-face	8 (26.7 %)	0

Therapy dose and location		
Telerehabilitation intervention		
Location when receiving telerehabilitation intervention, n (%):		
Own home	20 (66.7 %)	n/a
Rehabilitation ward/institution	5 (16.7 %)	n/a
Own home and rehabilitation ward/institution	5 (16.7 %)	n/a
Duration of telerehabilitation intervention in days (mean, SD)	27.6, 2.4	0
Hours of therapy by videoconference (mean, SD)	18.6, 1.5	0
Usual care		
Location during usual care therapy, n (%):		
No usual care delivered	2 (6.7 %)	0
Own home	3 (10.0 %)	3 (11.1 %)
Rehabilitation ward/institution	1 (3.3 %)	2 (7.4 %)
The therapist's office	18 (60.0 %)	14 (51.9 %)
The therapist's office and rehabilitation institution	6 (20.0 %)	8 (29.6 %)

Hours of Usual care therapy :		
Usual care therapy individually (mean, SD)	17.9, 11.4	19.0, 10.1
Usual care therapy by group (mean, SD)	2.6, 5.3	6.0, 9.6
Usual care therapy in total (mean, SD)	20.4, 12.0	25.0, 13.8
Total hours of therapy received		
Telerehabilitation Intervention + Usual care therapy (mean, SD)	39.0, 12.2	25.0, 13.8

n/a= not applicable

Table S3: Form return rates, data completeness and time between assessments

	Telerehabilitation group	Control group
Norwegian Basic Aphasia Assessment, n (%)		
Baseline	32 (100 %)	30 (100 %)
4 weeks assessment	30 (94 %)	27 (90 %)
4 months assessment	29 (91 %)	27 (90 %)
Verb and Sentence Test, subtest sentence production, n (%)		
Baseline	32 (100 %)	30 (100 %)
4 weeks assessment	30 (94 %)	27 (90 %)
4 months assessment	28 (88 %)	27 (90 %)
Communicative Effectiveness Index, n (%)		
4 weeks assessment	28 (88 %)	25 (83 %)
4 months assessment	24 (75 %)	22 (73 %)
Time between assessments (mean, SD)		
From baseline to 4 weeks assessment (days)	36.2, 5.9	31.2, 3.6
From baseline to 4 months assessment (weeks)	17.3, 1.6	16.8, 0.95

Supplementary table S4: Results of language outcomes using linear mixed models analysis with covariates

Outcome variable	Baseline, mean (SD)	4 weeks assessment, mean (SD)	4 months FU, mean (SD)	Telerehab group 4 weeks Effect estimate (95% CI)	Telerehab group FU Effect estimate (95% CI)	Time*group 4 weeks Effect estimate (95% CI)	Time*group FU Effect estimate (95% CI)	P value Time*group covariates
NGA subtest naming								
Telerehabilitation group	38.9 (13.7)	47.3 (18.9)	50.4 (22.4)	8.7 (5.3 – 12.1)	11.7 (7.3 – 16.0)	- 3.0 (-7.9 – 1.9)	-2.0 (-8.3 – 4.3)	0.479
Control group	45.0 (17.6)	50.2 (23.3)	54.1 (24.9)					
NGA subtest repetition								
Telerehabilitation group	41.4 (21.2)	47.2 (22.6)	53.0 (25.8)	7.3 (3.9 – 10.6)	13.6 (8.7 – 18.5)	-2.6 (-7.5 – 2.3)	-9.1 (-16.2 – -1.9)	0.023
Control group	52.7 (24.4)	58.6 (25.2)	58.4 (23.4)					
NGA subtest comprehension								
Telerehabilitation group	47.6 (19.8)	59.3 (23.3)	61.0 (24.0)	11.5 (7.6 – 15.3)	13.5 (7.9 – 19.1)	-4.2 (-9.8 – 1.4)	-4.0 (-12.0 – 4.1)	0.324
Control group	52.8 (24.0)	59.2 (28.5)	61.5 (29.5)					
VAST intransitive verbs								
Telerehabilitation group	4.2 (3.2)	6.0 (3.5)	6.8 (3.2)	1.8 (1.1 – 2.6)	2.5 (1.7 – 3.3)	-1.8 (-2.9 – -0.8)	-1.8 (-2.9 – -0.6)	0.004
Control group	5.3 (3.2)	5.3 (3.4)	6.1 (3.4)					
VAST transitive verbs								
Telerehabilitation group	3.4 (3.0)	4.8 (3.7)	5.8 (3.4)	1.3 (0.7 – 1.9)	2.2 (1.5 – 2.9)	-1.2 (-2.1 – -0.3)	-1.3 (-2.2 – -0.3)	0.017
Control group	4.4 (3.7)	4.6 (3.9)	5.4 (3.8)					
VAST total score								
Telerehabilitation group	7.5 (6.0)	10.7 (6.9)	12.5 (6.4)	3.1 (2.0 – 4.3)	4.6 (3.3 – 6.0)	-3.0 (-4.7 – -1.4)	-3.0 (-4.9 – -1.1)	0.002
Control group	9.7 (6.7)	9.9 (7.2)	11.5 (7.0)					

NGA = Norwegian Basic Aphasia Assessment

VAST= Verb and Sentence Test, subtest sentence production

FU= Follow-up assessment

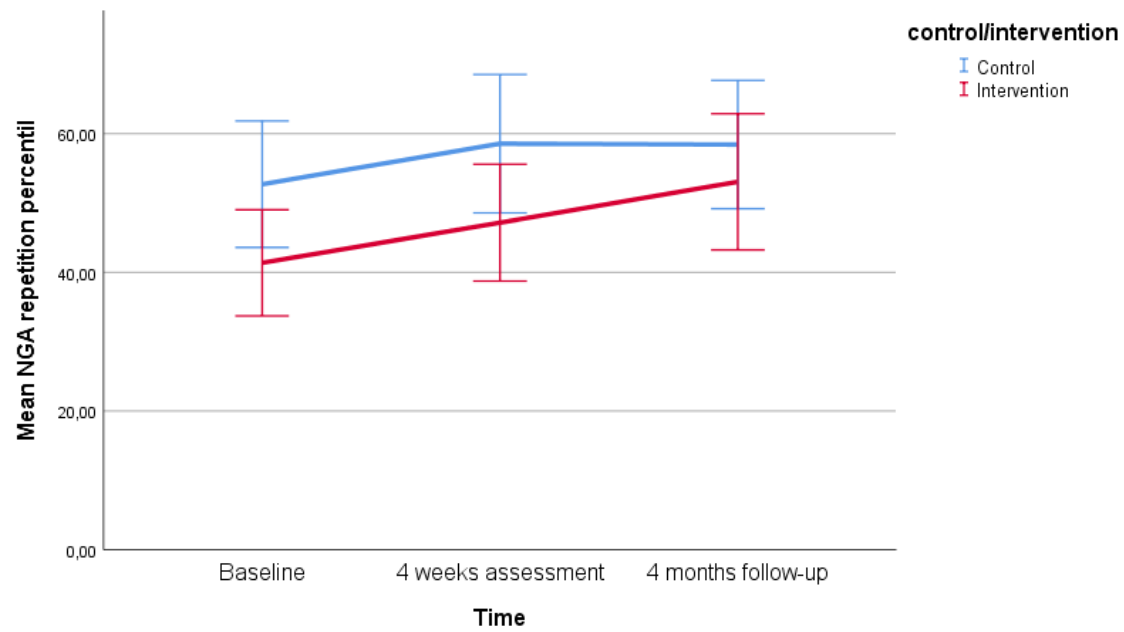


Figure S1: Multiple Line Mean of NGA repetition percentile by Time by control/intervention

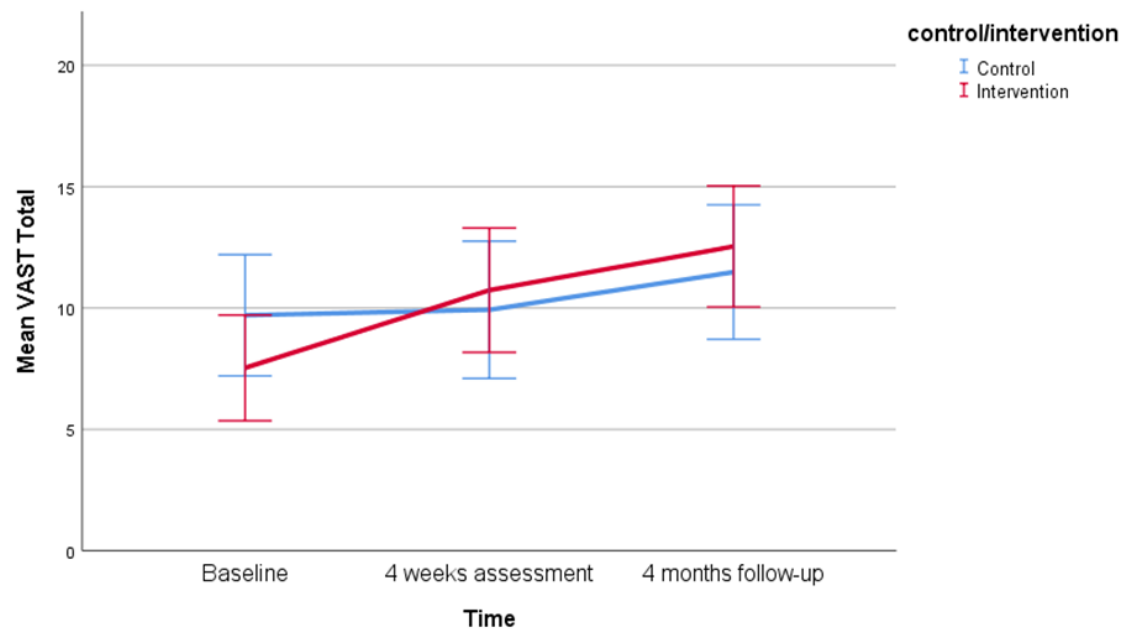


Figure S2: Multiple Line Mean of VAST Total by Time by control/intervention