Using multi-word utterances more flexibly in non-fluent aphasia: Findings from a case series investigation

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INTRODUCTION
Usage-based theories of grammar[1]
• Words (“I”, “like”, “it”) and phrases (“I like it”) are form-meaning pairings
• Importance of frequency of use (i.e. experience): more frequent word combinations are more likely to be accessed holistically

High-frequency word combinations
• High functional value
• Retained in non-fluent aphasia [2;3]
• From fixed to flexible:
e.g. I like it / I like coffee / [PERSON] like [THING]

Aim of this study
To develop and pilot an intervention for people with non-fluent aphasia aimed at increasing the productivity of constructions

METHODS
Participants
Five participants with chronic non-fluent aphasia (NFA) (MPO = 24 – 165; age range: 48-68 years; M = 59.80; SD = 7.36)

Design
• 6-month computerized intervention, three phases (Fig. 1)
  • 12 constructional frames, e.g.:
    Giving an opinion
    [REFERENT] like [THING]
    (I like it → you like it → you like tea)

Outcome measures
Primary outcome measures
• Connected speech measures
  Automated frequency-based analysis using the Frequency in Language Analysis Tool (FLAT [5])
  combination ratio = number of 3-word combinations
  number of single words

Data:
• Narratives
• Spontaneous Speech Samples (e.g., Last Holiday)

Secondary outcome measures
• Story Completion Test
  Probing all 12 constructions, e.g.:
  I baked a cake. My friend asks: “Did you buy this cake?”, so I say …? [Target: “I made it”]
  Spoken sentence comprehension (TROG-2 [6])

WHAT THE STUDY INVOLVES
3-year project: Mar 2019 - Feb 2022
Funded by the Stroke Association

Aims
• To test a new usage-based aphasia therapy for facilitating understanding & producing everyday sentences;
• To explore the effect of behavioural therapy in combination with brain stimulation (IDCS)

WHAT THE STUDY INVOLVES
• Computer therapy for aphasia + IDCS
  (N = 66 participants)
• Immediate and deferred trial entry group, with allocation to active- vs sham-IDCS

Trial registered with ISRCTN (study ID ISRCTN14466044)

More information can be found at:
www.cognitionandgrammar.net/utilise

REFERENCES