Attention, descriptive discourse and fluent aphasia: a study of Conner's Continuous Performance Test and its association with performance in connected speech

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Background

It has been challenging to synthesize data in clinical settings using discourse analysis and connected speech from People With Aphasia (PWA)[1,2]. International standards of the Aphasia Bank represent an important evolution[3]. It isn't widely studied how nonlinguistic cognitive functions might influence discourse analysis [4].

Methods

21 control participants and 19 people with fluent aphasia matched by age, sex and education were evaluated using transcripts from a picture description task , coded using the CHAT format, analyzed using CLAN program[5].

Commands used were: CHECK, CODER, MOR, MLT, FREQ, RECOD, COMBO, TIMEDURE, CQP and EVAL.

Figure 1. Picture extracted from BLOC screening test [6]

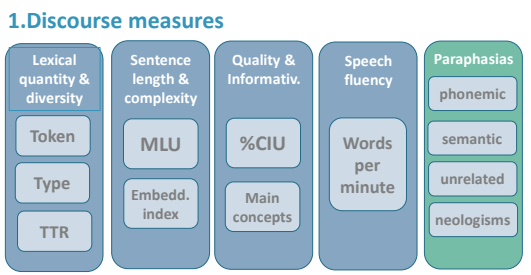

Figure 2. Descriptive discourse variables measured

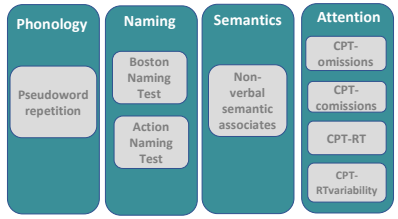

Figure 3. Standardized linguistic and non-linguistic tests used

Correlation analyses were performed to analyze associations among attentional skills, and clinical measures of language, with connected speech performance.

Stepwise linear regression was used to clarify the predictive values of clinical measures of cognitive variables for descriptive discourse performance.

Objetives

Results

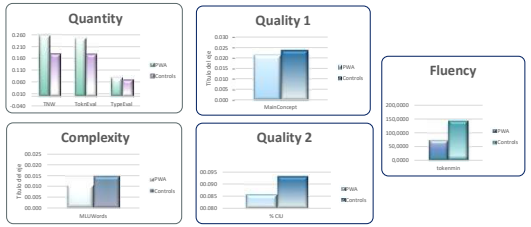

Figure 4 ,5,6,7 y 8 . Differences in both groups between quality, quantity and fluency measures

In PWA, there were no significant association between attentional C-CPT indices and discourse measures. Semantic association seems to be the best predictor for lexical diversity. Naming predicted sentence length and complexity.

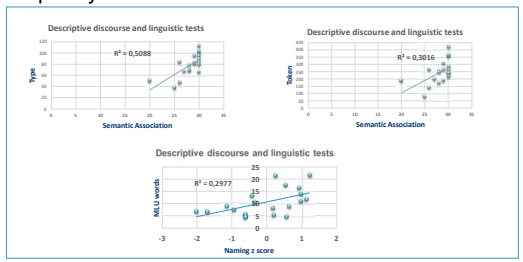

Figure 9.Scatter plots showing the relationship of standardized tests with different descriptive discourse indices in PWA

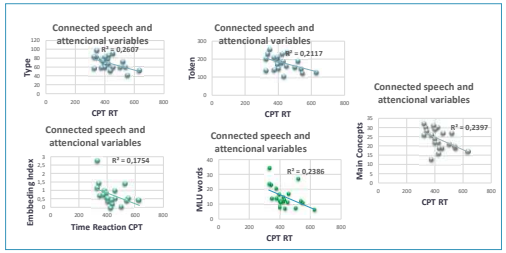

Figure 10.Scatter plots showing the relationship of attention variables with different descriptive discourse variables in controls

In controls, C-CPT response times were associated with different indices of discourse performance, but its predictive value regarding lexical quantity and sentence length was superseded by naming

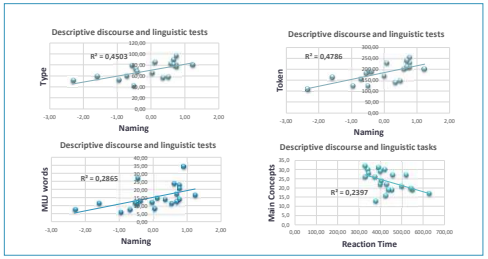

Figure 11.Scatter plots showing the relationship of standardized tests with different descriptive discourse index in controls

Regarding speech errors in PWA, pseudoword repetition tests were the best predictor for phonological paraphasias. Naming predicted verbal paraphasias.

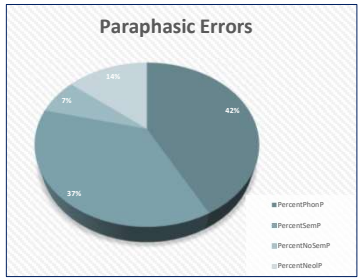

Figure 11 . Percentage of paraphasias during description task in PWA

Conclusions

Current results suggest a weak relationship between attention and descriptive discourse performance in fluent aphasia. Semantic association skills might mediate lexical productivity in this group.

In controls we found RT and naming to be associated to discourse measures.

Further research on the relationship between clinical measures of cognitive skills and discourse performance in PWA is warranted. Different cognitive demands depending on of the elicitation tasks, should also be considered.

References

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