Rapid auditory processing as a crucial aspect of speech perception – diagnostic and therapeutic implications

Patients with aphasia (PWA) demonstrate often deficits of non-linguistic cognitive functions: executive functions, working memory and Rapid Auditory Processing (RAP) which intensify the speech difficulties and hinder the rehabilitation process. Therefore, trainings of deficient non-linguistic cognitive functions maybe also profitable in aphasia treatment.
The present study investigated the effect of the novel training method Dr. Neuronowski® based on RAP (experimental training) compared to language training commonly applied in clinical practise (control training).

Thirty four PWA followed both linguistic and non-linguistic assessment before, after the training and in follow-up assessment. Patients were randomly assigned to either experimental (n=18) or the control group (n=16).
The experimental training improved in PWA non-linquistic functions such as RAP, short-term and working memory, and linquistic ones: phoneme discrimination, global speech comprehension, grammar comprehension, verbal fluency and naming (far-transfer effect). However, control training improved only grammar comprehension and naming. The follow-up assessment confirmed the stability of effects of both trainings over time.
To conclude, RAP training indicated broader benefits for amelioration of linguistic and non-linguistic functions compared to speech training in PWA. This novel powerful therapy tool Dr. Neuronowski® provide evidence for future promising clinical applications.
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