Effects of Meditation on Attention and Spoken Word Finding in People with Aphasia

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Background. People with aphasia after stroke can show both linguistic (e.g., word comprehension and production) and non-linguistic cognitive difficulties (e.g., memory, attention, Murray, 2012). While empirical evidence shows meditation can enhance cognitive processes in healthy long-term meditators (Sendlmeier et al., 2012; 2017; Biedermann et al., 2016) with positive short-term effects on attention in novices (Norris et al., 2018), only a small number of studies have explored whether meditation may affect change in cognitive processes in aphasia (Marshall et al., 2018). Although aphasia is primarily seen as a language disorder, improving attention through meditation might benefit impaired linguistic processes since word planning requires some attentional capacity (see Roelofs & Piai, 2011). The purpose of this study was to investigate whether a meditation intervention in people with aphasia can enhance attention and spoken word production. We also investigated changes in the clients’ self-reported everyday communication, social participation activities, and progress to learn meditation as a new skill.

Participants. Seven people (six male, M = 62 years) with chronic aphasia, spoken word finding difficulties, and relatively preserved comprehension were recruited. All participants had no prior meditation experience.

Procedure. A nine-week meditation intervention including two weekly 1-hr sessions was carried out. The intervention taught to notice the present moment without judgement (Bishop et al., 2004). Different meditation techniques were used (e.g., body scan, listening to sounds, and breath counting). A case series design was applied including background attention and language assessments (e.g., the Test of Everyday Attention [TEA], the Psycholinguistic Assessment of Language Processing in Aphasia [PALPA]) and repeated baselines and post-test measures on attention and spoken picture naming. Throughout the intervention, independent running measures on spoken picture naming, and self-reports on everyday communication and social participation, were collected. An exit questionnaire was administered capturing the meditation experience.

Measures. Subtests from the TEA and the PALPA assessed selective auditory attention, switching visual attention, sustained auditory attention and auditory short-term memory. Linguistic measures were based on standardised object pictures (Biedermann et al., 2014a,b, n=163), and picture naming running measures (taken from Nickels, unpublished) were based on five independent item sets (n=30 each) matched on key lexical variables (e.g., name agreement, frequency, length, etc).

Results. Using Weighted Statistics (Howard et al., 2015) for the baseline and post-test analyses, five participants showed significant maintained improvement on at least one measure of attention (ps < .05), whereas no effects were found for spoken picture naming. Using Kendall’s Tau (Parker et al., 2011) for the running measure analyses, two participants showed significant improvement immediately after meditation for picture naming (TAUs > .80, ps < .05). Only one participant reported on positive change for their everyday communication, whereas all participants reported in their exit questionnaire an overall beneficial meditation experience affecting their sense of self and social participation activities positively.

Conclusions. Theoretical and clinical implications for meditation in aphasia remediation are discussed with reference to Sohlberg and Mateer’s attention framework (2001) and the Two-Stage model of word production (Levelt et al., 1999).

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References


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