

Neurophysiological and cognitive effects of Transcranial Direct Current Stimulation in Rett Syndrome with chronic language impairments.

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The aim of this study was to examine the neurophysiological and cognitive effects of Transcranial Direct Current Stimulation (tDCS) in a girl with Rett Syndrome with chronic language impairments. We proposed an integrated intervention: tDCS stimulation and cognitive empowerment applied to language in order to boost up speech production (new functional sounds and new words).

The results indicated a general enhancement in language abilities (an increase in the number of vowel/consonant sounds and words and the production and comprehension through discrimination), motor coordination (functional movements), and neurophysiological parameters (an increase in the frequency and power of alpha, beta and theta bands).

It could be assumed that tDCS stimulation combined with the cognitive empowerment applied to language can significantly influence a chronic impairment even in genetic syndromes. Future research may evaluate the possible effects of this kind of combined treatment on other cognitive processes.

References

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