Effects of therapeutic climbing activities wearing a weighted vest on a child with attention deficit hyperactivity disorder: a case study

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[Purpose] The purpose of this study was to evaluate the effect of therapeutic climbing activities on the brain waves and attention of a child with attention deficit hyperactivity disorder.

[Subject and Methods] The subject of this case study was a 7 year 6-month old child diagnosed with attention deficit hyperactivity disorder. This study was based on evidence gathered at 3 distinct stages: a pre-intervention period, 10 intervention periods (2 weeks), and one post-intervention period. The intervention involved therapeutic climbing activities wearing a weighted vest over the course of 4 weeks. The clinical outcome measures were electroencephalography and the Star Cancellation Test.

[Results] The mean activation of alpha waves was improved by the therapeutic intervention. During the intervention, the mean activation of alpha waves was the highest at the F3 cortical locus and the lowest at the T4 cortical locus. The average Star Cancellation Test scores were 43 at pre-intervention, 50 during the therapeutic intervention, and 52 at post-intervention. The performance time of the Star Cancellation Test was 240.1 seconds at pre-intervention, 90.2 seconds during the therapeutic intervention, and 60.0 seconds at post-intervention.

[Conclusion] The results of this study suggest that therapeutic climbing activities performed wearing a weighted vest had positive effects on the brain waves and the attention span of a child with attention deficit hyperactivity disorder.