Increased cortisol awakening response after completing the summer treatment program in children with ADHD

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Abstract

Objective
Little is known about the cortisol awakening response (CAR) in children with attention deficit hyperactivity disorder (ADHD). Here, we examined the CAR in children with ADHD and their mothers before, immediately after, and 4 months after an intensive summer treatment program (STP).

Methods
Participants were 37 children aged 7–12 years who completed the STP in 2009 and 2010, and their mothers. Daily saliva samples for cortisol measurement were collected twice daily at awakening and 30 min afterwards at pre-STP, post-STP, and during a follow-up measurement period. ADHD symptom scores were evaluated by parents, and participants completed the Kid-KINDLR QOL questionnaire.

Results
CAR was low in children with ADHD before the STP and increased to the control range 4 months after STP. Maternal CAR also tended to increase after STP. Changes in the CAR in children tended to correlate with an improved ADHD inattention scores (p = 0.091), physical health (p = 0.070), and school life subscales scores in the Kid-KINDLR (p = 0.079).

Conclusion
We demonstrated that STP improved the behaviour and QOL of children with ADHD. Our results indicate that STP could lead to improvements in HPA axis function, as reflected by increased CAR after STP.