Neuropsychological Effects of the Traumatic Stress Response in Sexually Abused Adolescents throughout Treatment

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Introduction

• Child maltreatment has a wide variety of effects, including internalizing and externalizing problems. (e.g., De Bellis, 2005; Kendall-Tackett, Williams, & Finkelhor, 1993; Kolko, 2002).
• Experiencing traumatic events have been associated with altered neurochemical stress response system in adults and children (e.g., DeBellis, 2005; Cicchetti, 2001)
• Altered neurochemical stress response has been linked to poorer neuropsychological performance in attention, memory, and executive functioning in adults. (e.g., Vasterling & Brewin, 2005.)
• There is a lack of research and a need for study on the potential impacts of traumatic events on youth's neuropsychological functioning (e.g., MacDonald, 2008).

Method

• Goals: Assess feasibility of using a brief, computerized assessment as a means of detecting change in neuropsychological functioning throughout treatment in adolescents who have experienced sexual abuse
• Participants: 4 adolescent who participated in a 12-week, sexual abuse group treatment program (Project SAFE). Participants assessed pre treatment, mid treatment, post treatment.
• Assessments:
  • CITES: traumatic impact of their sexual abuse history (Wolfe, Gentile, Michienzi, Sas, & Wolfe, 1991)
  • ANAM- potential change in neuropsychological processing (Cernich, Reeves, Sun, & Bleiberg, 2007)
  • CDD- potential change in neuropsychological processing (Cernich, Reeves, Sun, & Bleiberg, 2007)
  • SRT- potential change in neuropsychological processing (Cernich, Reeves, Sun, & Bleiberg, 2007)

Results

• ANAM can be implemented into a standardized assessment battery as a measure of change of neuropsychological functioning in adolescents throughout sexual abuse treatment
• Lack of motivation or monitoring greatly affects ANAM performance (Week 12, spoiled time-point)
• Neuropsychological functioning appeared to change throughout treatment
• Change was greater for short-term memory than for attention
• Increase in neuropsychological functioning (ANAM) does appear to be associated with a decrease in traumatic stress (CITES PTSD subscale)

Discussion

• Adolescents must be monitored when taking computerized assessments that are response-time dependent (e.g., not texting each other on their cell phones during the assessment)
• Use of incentives should be considered to maintain motivation for maximal performance
• While a brief, computerized measure of neuropsychological functioning is ideal in minimizing time commitment, other measures of neuropsychological functioning should be utilized to measure convergent validity with ANAM test results
• Measures of neuropsychological functioning such as attention and short-term memory may demonstrate effects on the neurochemical response system to trauma previously detected through cortisol assays and trauma symptom checklists
• There is an imperative need for replication of these results as this is the first study of its kind and future studies should include larger sample sizes