Association between small for gestational age and low birth weight with attention deficit and impaired executive functions in 3-6 years old children.

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Abstract

BACKGROUND:
Behavioral disorders and attention deficit hyperactivity disorder (ADHD) symptoms are frequently reported among children with history of small body size at birth and disproportionate intrauterine growth retardation. The current study aimed to investigate some factors like executive functions and attention deficit in children with history of Small for gestational age (SGA) and /or Low Birth Weight (LBW) at birth.

METHODS:
A historical cohort study was done and 3-6 years old preschool children (with past history of SGA/LBW) from some kindergartens and health centers were selected. Control group was randomly selected among children with history of normal birth weight and appropriate for gestational age at birth. All children were interviewed by an expert psychologist. Variables related their attention, development and executive functions were assessed by ASQ, Conner's and Wisconsin Card Sorting Test. Completed questionnaires related Attention deficit and indexes of executive functions were evaluated between children in case groups and their counterparts in controls.

RESULTS:
Based on inclusion criteria 229 preschool children entered the study. With regard to size for gestational age, 124 cases were categorized in the SGA/LBW group and the rest were assigned in the appropriate for gestational age (AGA) group. In the case group, NPE and Percent Perseverative Errors (PPE) scores were significantly lower than normal birth weight group (p = 0.0001, p = 0.015). Scores related B item of Conner's was significantly different between cases and their controls (p = 0.039, p = 0.035).

CONCLUSION:
Our results indicated that children with past history of some risks at birth may suffer from complications related attention and executive functions in their childhood. Recommendations for further research are strongly suggested.