Family factors associated with academic achievement deficits in pediatric brain tumor survivors.

Ach E, Gerhardt CA, Barrera M, Kupst MJ, Meyer EA, Patenaude AF, Vannatta K.

The Research Institute at Nationwide Children's Hospital, Columbus, OH, USA; The Ohio State University, Columbus, OH, USA.

Abstract

PURPOSE: The purpose of this study is to examine whether parental education, socioeconomic status, or family environment moderate the extent of academic achievement deficits in pediatric brain tumor survivors (PBTS) relative to classmate case-controls. PBTS are known to be at risk for cognitive and academic impairment; however, the degree of impairment varies. Prior research has focused on treatment risk, and efforts to examine the protective role of family resources and relationships have been lacking.

METHODS: Pediatric brain tumor survivors (N = 164), ages 8-15 and 1-5 years posttreatment, were recruited at five treatment centers in the United States and Canada. A case-control classmate, matched for age, gender, and race, was recruited for each survivor. The Wide Range Achievement Test, a demographic form, and the Family Environment Scale were administered in families' homes. Treatment data were abstracted from medical charts.

RESULTS: Pediatric brain tumor survivors demonstrated lower achievement than classmate-controls in reading, spelling, and arithmetic. Parental education and socioeconomic status were associated with levels of achievement demonstrated by PBTS but did not account for discrepancies between PBTS and classmate-controls. Deficits in achievement relative to classmate-controls, across all academic domains, were greater for survivors in families lower in support and higher in conflict. These associations remained after controlling for age at diagnosis, time since treatment, and whether treatment had involved chemotherapy, focal, or whole brain radiation.

CONCLUSIONS: These results support the development of interventions to enhance family functioning as well as educational resources as part of intervention and rehabilitation services to optimize academic progress in children who have been treated for brain tumors. Copyright © 2012 John Wiley & Sons, Ltd.

PMID: 23059621 [PubMed - as supplied by publisher]