QOS-07. PEDIATRIC PERCEIVED COGNITIVE FUNCTION ITEM BANK (pedsPCF) IS ASSOCIATED WITH LEUKOENCEPHALOPATHY OF CHILDREN WITH BRAIN TUMORS

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Cognitive dysfunction is a major concern for children with brain tumors. A valid, user-friendly screening tool could facilitate prompt referral for comprehensive neuropsychological assessments and therefore early intervention. The pediatric perceived cognitive function item bank (pedsPCF) can potentially serve as such a tool. This study evaluated whether pedsPCF was a valid indicator of degree of structural changes in the brain as indicated by leukoencephalopathy grades. Data from 99 children (mean age = 12.6 years) with brain tumors and their parents were analyzed. Average time since diagnosis was 5.8 years; time since last treatment was 4.3 years. Leukoencephalopathy grade (range: 0-4) was based on white matter damage and degree of deep white matter volume loss shown on MRI. Parents of patients completed the pedsPCF. Scores were based on the US general population-based T-score metric (mean = 50; standard deviation = 10). Higher scores reflect better function. Leukoencephalopathy grade distributions were as follows: 36 grade 0; 27 grade 1; 22 grade 2; 13 grade 3, and 1 grade 4. The mean pedsPCF T-score was 48.3 (SD = 8.3; range: 30.5 to 63.7). The pedsPCF scores significantly discriminated patients with different leukoencephalopathy grades, F = 4.14, p = 0.0084. Effect sizes ranged from 0.09 (grade 0 versus 1) to 1.22 (grade 0 versus 3/4). This study demonstrates that the pedsPCF is a valid indicator of leukoencephalopathy and provides support for its use as a screening for further cognition assessment.