

infection were included and received an energy- and protein-enriched (PE) infant formula (Infatrini [Nutricia B.V. Zoetermeer, Zoetermeer, Netherlands]; $n = 8$) or standard infant formula (Nutralon 1 [Nutricia B.V. Zoetermeer]; $n = 10$). Daily intake and tolerance (gastric retention, diarrhea) were recorded. Resting energy expenditure, respiratory quotient, L-amino acid concentrations, and metabolic parameters were measured, and cumulative energy balance, nitrogen balance, and substrate utilization were calculated.

RESULTS: Baseline characteristics were similar in both groups. Both formulas were well tolerated with similar volumes of intake. Results from day 4 are presented in Table 1. Levels of several amino acids (His, Val, Met, Phe, Lys, and ornithine; $P < .05$) were significantly higher in the infants who received the PE-enriched formula.

TABLE 1. Results on Day 4 of Admission

Formula	Protein Intake, g/kg per day	Energy Intake, kcal/kg per day ^a	Resting Energy Expenditure, kcal/kg per day ^a	Respiratory Quotient	Cumulative Energy Balance, kcal/kg per day ^a	Cumulative Nitrogen Balance, mg/kg per day
PE-enriched ($n = 8$)	2.61 ± 0.24	111 ± 10	59 ± 5	0.98 ± 0.02	589 ± 115	162 ± 32
Standard ($n = 10$)	1.46 ± 0.11	78 ± 4	49 ± 4	0.91 ± 0.01	350 ± 50	68 ± 16
<i>P</i>	<.01	<.01	.26	<.01	<.05	.08

^a 1 kcal = 4.2 kJ.

CONCLUSIONS: PE-enriched infant formula was well tolerated in critically ill infants and effective in achieving higher nutritional intakes in the first days of admission. PE-enriched formula improved energy balance and plasma amino acid profile, and a trend toward increased nitrogen balance was found.

Developmental and Behavioral Pediatrics

COGNITIVE AND BEHAVIORAL ABILITIES OF CHILDREN WITH HIV INFECTION IN GREECE

Submitted by Georgia Bertou

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OBJECTIVE: Our goal was to evaluate cognitive and behavioral abilities of HIV-positive children in Greece.

METHODS: The cognitive and behavioral abilities of 20 HIV-positive children (B and C status; 8 boys and 12 girls; aged 3–18 years [mean: 11.5 years]) who were vertically infected and were receiving antiretroviral treatment were assessed twice within a 7-year period. Clinical indices (CD4 lymphocyte and viral load counts) were monitored systematically. A detailed developmental assessment was performed for all children twice within a 7-year period. Cognitive abilities were assessed

by using the Wechsler Intelligence Scale for Children III and Griffiths Mental Abilities Scales. Behavioral abilities were assessed by using the Strengths and Difficulties Questionnaire, which provides individual scores for anxiety, emotional tension, conduct, hyperactivity, and social relations with peers and provides an overall index of behavioral difficulties (IBD). Detailed neurologic examination and brain imaging were performed for all children.

RESULTS: HIV encephalopathy was evident in 3 children, and 5 of 20 children presented with coexisting diseases (2 neurofibromatosis encephalopathy, 1 brain aneurysm, and 2 autistic disorders). HIV-positive children with normal MRI findings and without signs of HIV encephalopathy scored within the normal range for their chronological age in all measures of general and specific domain cognitive abilities. Low IQ scores showed in 15 of 20 HIV-positive children in both assessments. Factors that were associated consistently with lower scores were positive MRI results, coexistence of an organic disease, maternal education, and gender. The IBD was raised in 7 children. In detail, 9 children had raised IBD scores in emotional tension, 6 seemed to have conduct disorders, 5 had hyperactivity, and 11 presented as having difficulties in social relations with their peers. Factors that were associated significantly and consistently with abnormal IBD scores were lower IQ, positive MRI findings, and coexistence of an organic disease.

CONCLUSIONS: Although the sample was small, the findings of our study support the idea that HIV infection places children at increased risk for poor cognitive and behavioral outcomes only if they experience a severe illness of advancing disease stage or a coexisting disease.

BEHAVIORAL PROBLEMS IN CHILDREN WITH LEARNING DIFFICULTIES ACCORDING TO THEIR PARENTS AND TEACHERS

Submitted by Panagiotis Diakakis

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INTRODUCTION: Learning difficulties (LDs) are associated with increased comorbidity, especially depression and anxiety. Studies have shown that 24% to 52% of children with LDs present with behavioral problems (BPs).

OBJECTIVE: The aim of our study was to evaluate whether parents' and teachers' opinions concerning BPs in children with LDs are identical.

METHODS: For this purpose, 658 students (aged 7–10 years) in elementary schools were evaluated by specialized questionnaires for parents and teachers. Of those students, 102 (15.5%) were identified as having LDs according to their teachers. The questions regarded symptoms of depression, anxiety/stress, irritability, and other BPs.

RESULTS: Our findings in children with LDs are summarized in Table 1.

TABLE 1. Behavioral Problems in Children With LDs

	Teachers and Parents	Teachers and Parents	Only the Teachers	Only the Parents
	Agree That There Are No BPs, %	Agree That There Are BPs, %	Consider That There Is a BP, %	Consider That There Is a BP, %
Reduced self-confidence	24.6	26.3	42.1	7.0
Complains of headache/bellyache	19.4	28.4	37.3	14.9
Feeling tired frequently	13.6	24.2	56.1	6.1
Other children tease him/her	42.6	13.2	16.2	27.9
Being alone, without friends	37.1	11.3	35.5	16.1
Being unreliable	48.4	12.5	10.9	28.1
Often fights with other children	48.5	20.6	13.2	17.6
Increased irritability	36.8	20.6	11.8	30.9

CONCLUSIONS: BPs resulting from reduced self-confidence and anxiety/stress were observed at a higher rate by the teachers than by the parents, who more often acknowledged symptoms of social isolation and aggressive behavior. Stress was the BP about which parents and teachers gave identical replies.

QUALITY OF LIFE OF CHILDREN WITH MENTAL DISABILITIES AND THEIR FAMILIES IN CYPRUS

Submitted by Vassiliki Papavassiliou

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INTRODUCTION: Children with mental disabilities and their parents face challenging lives in an ever-changing social context.

OBJECTIVE: We sought to evaluate quality of life and daily habits of children with mental disabilities and their families in Cyprus.

METHODS: Sixty-three children (65.5% male) who were attending special schools were evaluated by questionnaires for parents and teachers, personal interviews, and local visits.

RESULTS: Mental disabilities were diagnosed in 45.8% of the children at birth and in 40.7% at 2.5 years, by which time most developmental milestones are normally achieved; 6.5% had not been diagnosed with a mental disability. For 18% of the children, another family member had also been diagnosed with mental disabilities. Pediatricians were considered most supportive (62.3%). Only 45% of the children were followed-up

regularly, 30.5% rarely visited a doctor, and 66% had not been evaluated by electroencephalography after diagnosis. Children attended physiotherapy (39.2%), ergotherapy (51%), and arts therapy (45.3%), and 95.1% attended special education. Most of them went to school by bus (85.2%). They were somewhat accepted by their peers (49.1%), and 33.3% shared leisure time. They felt accepted by society (86.4%), but 16.9% reported problems with family members. The mother was mostly involved (61.8%), and in only 5.9% of the cases were both parents involved. Parents had little or no free time (67.1%), rarely went on holidays (55%), considered a big city favorable (61%), and were optimistic about their children's future (76.4%). Many parents needed assistance (60%), especially regarding free time (22.6%) and financial (20.8%) and medical (11.3%) issues. Most peers were informed and understanding (95%).

CONCLUSIONS: Quality of life is considered satisfactory; however, better medical follow-up and intensification of help provided to these families is needed. Children are quite well adapted in society, although there is room for improvement.

EVALUATION OF LEARNING DIFFICULTIES IN EPILEPTIC CHILDREN WITH IDIOPATHIC GENERALIZED EPILEPSY AND WELL-CONTROLLED SEIZURES

Submitted by Alexia Prassouli

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INTRODUCTION: Children with symptomatic epilepsy have more learning difficulties (LDs) than those with idiopathic or cryptogenic epilepsies. However, there is little information on the prevalence of LDs in well-defined pediatric epileptic populations.

OBJECTIVE: Our goal was to evaluate LDs in epileptic children.

METHODS: We evaluated LDs in 37 epileptic children (18 boys and 19 girls; mean age: 8.29 ± 1.00 years) who had idiopathic generalized epilepsy (IGE) and were being treated with sodium-valproate monotherapy (22 with generalized tonic-clonic seizures and 15 with absence epilepsy). The mean duration of epilepsy and treatment was 3.48 ± 1.88 and 2.96 ± 1.80 years, respectively. All children attended mainstream schools, and their seizures were well controlled (without seizures for at least 6 months). We used the Athina Test for the Diagnosis of Learning Difficulties, a test that is partly

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DOI: 10.1542/peds.2007-2022CC

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