

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.

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