IMPACT OF BEHAVIORAL & NUTRITION TREATMENT FOR TODDLERS & PRESCHOOLERS WITH CF ON ENERGY INTAKE & GROWTH MAINTAINS FOR 12 & 18 MONTHS

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OBJECTIVE:

To evaluate whether changes in energy intake and growth velocity produced by behavioral and nutrition treatment (BEH) for toddlers and preschoolers with CF were maintained at 12 and 18 month follow-up assessments.

METHOD:

A randomized clinical trial of BEH for children age 18 to 48 months was conducted in 2003 at Cincinnati Children's Hospital. 9 participants completed the 8-week intervention that included individualized nutritional counseling and parent training of effective child behavior management skills.

At the follow up assessments (12 and 18-months), three 24-hour recall diet diaries (2 weekdays & 1 weekend day) and weight and height were obtained.

Average *daily energy intake* (analyzed by a registered dietitian using Nutrition Data Systems software) and *growth velocity* (weight and height) were measured as outcome variables.

Velocity was calculated as the rate of change from post-treatment to follow up, and benchmarked against the expected velocities for a same age child without CF who was growing at the 50th percentile based upon the 2000 CDC growth charts.

GROWTH VELOCITY:

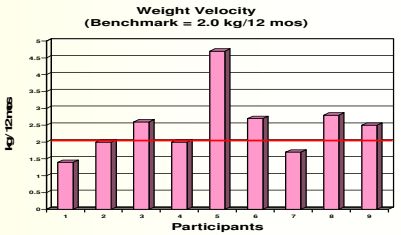
12 months

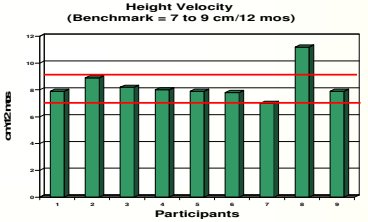
Weight

- Weight velocity M = 2.5 ± 0.96 kg/12 months (Median: 2.5)
- Seven of the 9 participants (78%) were at or above the benchmark
- 2 participants were within 0.6 and 0.3 kg of this goal

Height

- Height velocity M = 8.3 ± 1.2 cm/12 months (Median: 7.95)
- All 9 participants (100%) were at or above the benchmark





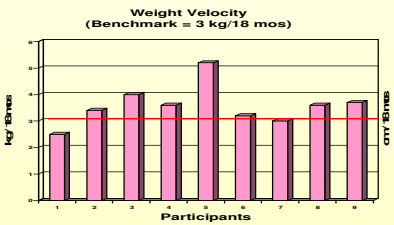
18 months

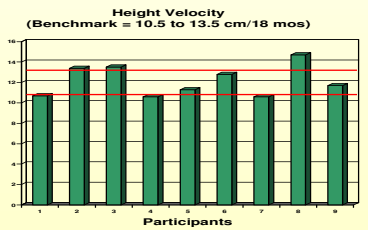
Weight

- Weight velocity M = 3.5 ± 0.77 kg/18 months (Median: 3.2)
- Eight of the 9 participants (89%) were at or above the benchmark
- One participant was within 0.5 kg of this goal

Height

- Height velocity M = 11.9 ± 1.2 cm/18 months (Median: 11.7)
- All 9 participants (100%) were at or above the benchmark



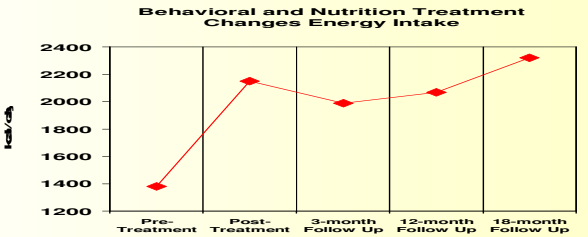


ENERGY INTAKE:

- 12 month daily energy intake M = 2,069 kcal/day
- 18 month daily energy intake M = 2,322 kcal/day

- Compares favorably to the data from post-treatment (2,151 kcal/day) and the 3-month follow up (1,990 kcal/day).

- All of the participants continued to exceed the goal of 120% RDA per day for energy intake at the 12 and 18 month follow ups.



CONCLUSION:

Upon returning to usual care, young children with CF who received BEH continue to maintain clinically significant increases in energy intake and demonstrate patterns of normal growth at 12 and 18 months post treatment.

IMPLICATION:

These findings suggest that this intervention is durable and that families are able to continue to implement the skills and knowledge provided during behavioral treatment without ongoing contact with the research team or additional booster treatment sessions.

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