

DEMONSTRATING THE PROCESS OF CHANGE IN ENERGY INTAKE PRODUCED BY A BEHAVIORAL & NUTRITION TREATMENT FOR TODDLERS & PRESCHOOLERS WITH CYSTIC FIBROSIS



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OBJECTIVE:

Use single subject analysis to examine the process of change in a clinical trial of behavioral and nutrition treatment for children age 18 to 48 months with CF.

The aim was to empirically demonstrate that the planned process/mechanism of change occurred. Specifically, that energy intake would increase only when snacks or a meal were targeted during the intervention (multiple baseline across meals design) and that average total energy intake per day would increase in a systematic, step-wise fashion over the course of treatment (changing criterion design).

METHOD:

Treatment combined individualized nutritional counseling that targeted increasing energy intake in one meal each week and parent training of effective child behavior management skills (e.g., differential attention, age-appropriate limit setting). It was designed to increase energy intake measured by diet diaries 600-800 calories per day. All diet diaries were analyzed by a registered dietitian utilizing the Food Processor Program. Information was obtained on energy intake per snack/meal per day and total energy intake per day.

PARTICIPANTS (N = 9):

Age:

M = 31.5 months SD = 6.2 months
Range = 22 to 43 months

Gender:

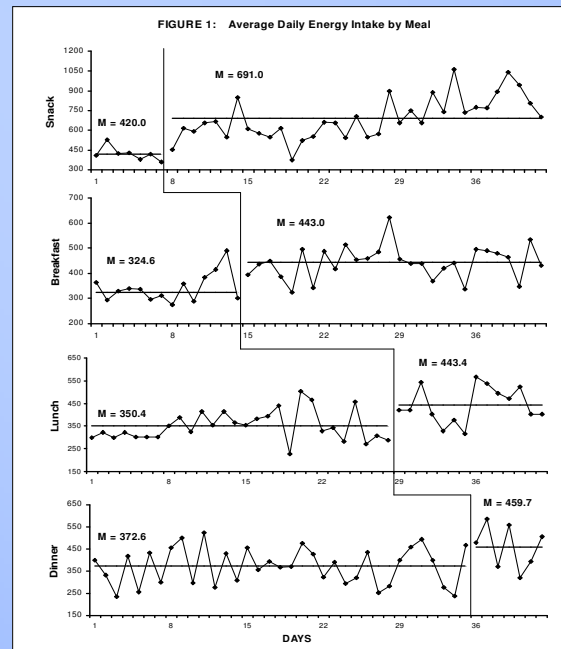
6 males
3 females

Health information:

Mean weight for age z score = -0.19
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7 (78%) at-risk nutritional status

RESULTS:

Energy intake changed at each meal only when treatment was introduced at that meal (See Figure). Total daily intake increased in a systematic fashion that exceeded the criterion set each week during treatment (See Table).



Changing Criterion Design : Increase in Energy Intake

Meal targeted	Criterion Set for Daily Intake	Actual Energy Intake (%RDA)
Baseline	---	1,395 (107%)
Snacks	1,500	1,767 (136%)
Breakfast	1,675	1,794 (138%)
Lunch	1,850	2,021 (155%)
Dinner	2,025	2,295 (177%)
3 mo Follow-up	1,900 - 2,100	1,960 (151%)
12 mo Follow-up	1,900 - 2,100	2,026 (156%)

CONCLUSIONS:

Toddlers and preschoolers with CF meet energy intake recommendations as a result of behavioral intervention. The planned outcome was an increase in energy intake per day of 600-800 calories, meeting the recommended goal of 120-150% RDA for energy per day. This outcome was achieved and maintained at the 3 and 12 month follow-up assessments. Single subject research designs are important methodologies for understanding how an intervention produces changes within the context of a randomized clinical trial. The results illustrate that the intervention worked as it was designed, and adds further confirmation that behavioral and nutrition treatment to improve energy intake in young children with CF is efficacious.