Increasing Compliance and Food Acceptance in Children with Feeding Problems in a Multidisciplinary Clinic

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Abstract
The Feeding and Swallowing Team (FAST) at Munroe-Meyer Institute offers a one-week intensive treatment in which children are seen 2-5 times per day and parents participate early in the intervention. It is critical to find positive strategies that can be utilized rapidly and are socially acceptable to the parents. The present study investigated the efficacy of behavioral momentum in increasing compliance with food intake. Two children who were obtaining most nutrition via gastrostomy tube were the participants. Results revealed that behavioral momentum increased compliance with feeding as well as food acceptance. In all cases, the mother was faded into the session and the therapist faded out.

Introduction
In the feeding literature, most children have been treated in a long-term intensive feeding program. However, not all children are able to participate in this type of setting due to financial or logistical difficulties, particularly in rural states such as Nebraska. An alternative setting being utilized by the Munroe-Meyer Institute Feeding and Swallowing Team (FAST) at the University of Nebraska is a one-week intensive treatment in which children are seen 2-5 times per day and parents participate early in the intervention. The FAST is an interdisciplinary team which typically includes a variety of specialists whose roles are complimentary (see Table 1). Simple, achievable goals are made that will set the child on a trajectory towards oral eating. The children return to therapists in their own communities, with follow-up intensive weeks offered as an option when new goals are set. Because of the short duration of this intervention, it is critical to find positive strategies that can be utilized rapidly and are socially acceptable to the parents. Behavioral momentum has been used successfully to improve compliance by reinforcing high-probability requests in succession prior to interspersing more difficult tasks (Mace, 1996; Mace, Mauro, Boyajian, & Eckert, 1997; Nevins, 1996). This strategy was used successfully by the FAST to increase frequency (Mathews, Smith, & Keller, 2003) in a four-year-old.

Method

Participant 1:
- 22-month old male
- Hospitalized for 1st 65 days of life
- Hypo-plastic Left Heart Syndrome
- 2 heart surgeries
- Allergies, reflux
- G-Button, Fundoplication
- Medications

Participant 2:
- 4-year-old male
- Diagnosed with Mosaic Down Syndrome
- Congenital heart defect repaired at 8 months
- G-tube, Fundoplication
- No medications

Reasons for Referral:
- To increase oral food intake and decrease tube feeds
- Both participants 100% tube feed
- Minimal oral intake
- Never request food

Assessment Measures

Initial Assessment Procedures:
- MMI FAST (Feeding & Swallowing Team)
  - Pediatric Feeding and Swallowing Intake
  - Strengths and needs assessment
  - Direct observation of feeding in clinic

Data Collection During Treatment:
- Food type, bite/drink size, child behavior (i.e., accept/refuse/gag/vomit), adult response (i.e., verbal praise/tangible/reprimand/distractor)
- Compliance data – comply with simple commands (i.e., “Put it in”)
- Antecedents-behaviors-consequences of vomiting

Results
By the end of the week, both children were almost 100% compliant with the targeted feeding task and returned to the block task were rarely needed (see Figures 1 and 2). Overall Acceptance of food was increased by 36% for participant 1 and 23% for participant 2. Behavioral compliance slightly increased for both participants although baseline exceeded 85%. In both cases, the mother was successfully faded in as the primary feeder and the therapist faded out. Treatment integrity was high when the mothers fed the child alone prior to discharge.

Discussion
Behavioral momentum was an effective strategy to increase compliance during mealtime as well as food acceptance among the two participants. A dramatic increase was seen in food acceptance and compliance with simple tasks remained high for both participants. An interdisciplinary approach was efficacious in increasing behavioral compliance and acceptance of food in the current case studies. Each team member provided unique and vital contributions (e.g., dieticians provided recommendations on appropriate ratios of formula; the occupational therapist gave recommendations on food textures, etc.). One variable that likely contributed to the high rate of compliance among the participants included the use of errorless learning with the block task and the addition of PCIT training during the intensive week outside of mealtime. Parents learned how to provide attention and praise for appropriate behavior and how to effectively consequeate inappropriate behavior. Thus, parents were able to use these strategies (reward and time-out) during mealtimes as well as outside of mealtime. Additionally, frequent and intensive intervention sessions allowed for control over contingencies surrounding mealtime as well as provided several repetitions to learn appropriate behaviors during mealtime. Finally, the pace of feeding and length of each session also made a contribution to the success of this intervention. Specifically, a fast pace during feeding is essential for behavior momentum to be effective in that acceptance of bites becomes more automatic and suppresses the opportunity to engage in inappropriate behaviors, gagging or vomiting. Future directions include planning for generalization of behavioral momentum procedures across food (i.e., variety in food types), people (i.e., parents, teachers), and settings (i.e., home, school). Additionally, maintenance of the feeding progress is essential beyond the intensive week. As with many behavior interventions, troubleshooting future behavior and acceptance problems can interfere with progress. Also, oftentimes there are changes in the goals for feeding once a child has reached a certain criterion. Planning for the overall and ongoing success of any intervention is essential in feeding.