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Co-occurring behavioral difficulties in children with severe feeding problems: A descriptive study

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ABSTRACT

Background: Recent literature highlights the association between behavioral difficulties and the presence of feeding problems in children with an Autism Spectrum Disorder (ASD) relative to children with ASD without feeding problems. However, it is not clear to what extent behavior problems (outside of the meal setting) occur in children with feeding problems without comorbid ASD.
Aims: The purpose is to describe co-occurring behavioral difficulties of a sample of children with severe food refusal/selectivity and examine potential predictors of behavioral difficulties outside of the meal context.
Method and procedures: The medical charts of fifty-four patients were reviewed and data were collected on the frequency of caregiver coaching and/or behavioral intervention outside of the meal context. Age, presence of developmental delay/autism, and type of feeding problem were examined as potential predictors of behavioral support.
Outcome and results: Approximately half of the sample received coaching or individualized intervention. The percentage of caregivers who received individualize coaching were similar across groups. Younger age at admission was a predictor of individual caregiver coaching. Presence of delay/ASD, age, and type of feeding problems were not significant predictors for individualized treatment programing.
Conclusion and implications: These data provide evidence of difficult caregiver-child interactions that occurs outside of the meal context for some children with severe feeding difficulties and suggest that this association may not be exclusive to children with ASD.

1. Introduction

Learning to eat is a complex process that is influenced by many biomedical, physiological, environmental, and sociocultural/contextual factors (Berlin, Davies, Lobato, & Silverman, 2009). Pediatric food refusal is characterized by avoidance or restriction of food intake that results in insufficient nutrition through oral consumption. This is often accompanied by significant weight loss and/or a failure to gain weight, nutritional deficiency, dependence on enteral feedings or food

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supplements, or interference with social functioning (Williams, Field, & Seiverling, 2010). Children with feeding problems often have multiple co-occurring medical and developmental conditions (Berlin, Lobato, Pinkos, Cerezo, & LeLeiko, 2011). Feeding problems are often associated with the history of other developmental disabilities (e.g., developmental problems, autism), physical disabilities (e.g., cleft palate), and/or early or ongoing medical concerns (e.g., GERD, lung disease; Williams et al., 2010). These problems can take the form of *total or partial food refusal* or refusal based on the sensory characteristics or qualities of the food including color, smell, appearance, texture, type or brand, which is often referred to as *food selectivity*. Feeding problems may have a significant impact on the child's growth, development, and opportunities for social and community participation (i.e., school placement, peer interactions, cultural and family rituals/holidays; Bandini et al., 2010; Milnes & Piazza, 2013).

These types of feeding difficulties are present in children of varying ages, developmental trajectories, behavioral presentations, and medical histories (Williams et al., 2010; Bandini et al., 2010; Romano, Hartman, Privitera, Cardile, & Shamir, 2015). Feeding difficulties associated with total food refusal and food selectivity frequently begin early-on in the child's development and often persist in the absence of treatment (Bandini et al., 2010). Though ongoing medical issues or developmental concerns may be the impetus of the food refusal, environmental variables often maintain the food refusal/selectivity overtime (Piazza et al., 2003; Babbitt et al., 1994; Palmer, Thompson, & Linscheid, 1975). The presentation of food in the meal setting often evokes refusal in the form of crying, attempts to push away feeder/spoon, turning of the head, blocking the mouth, and in some cases, running away from table, aggression, and/or self-injury. The child may learn that specific behaviors (i.e., turning head, crying, blocking mouth) during mealtime (or otherwise) are associated with different responses from caregivers such as a variation in the amount or quality of caregiver attention provided (i.e., coaxing or comforting) or the demands that are placed (i.e., amount or type of food presented or duration of the meal) (Borrero, Woods, Borrero, Masler, & Lesser, 2010; Piazza et al., 2003).

Feeding a child is one of the first role-defining responsibilities that a caregiver takes on when becoming a parent. Difficulties with feeding have high stakes given the potential impact on a child's overall health, growth/development and social interaction (Berlin et al., 2009). Feeding problems often set the stage for increased stress during meals and other caregiver-child interactions (Sanders, Patel, Le Grice, & Shepherd, 1993). Several researchers have identified high self-rated levels of stress in caregivers of children with feeding disorders (Jones & Bryant-Waugh, 2012; Greer, Gulotta, Masler, & Laud, 2008; Sharp, Burrell, & Jaquess, 2013). Caregiver-child interactions are often mentioned as a contributing or maintaining factor in the persistence of the feeding difficulty (Berlin et al., 2009; Piazza et al., 2003; Bachmeyer et al., 2009; Sanders et al., 1993; Werle, Murphy, & Budd, 1993). Given the high levels of stress and challenging interactions between the child and caregiver during mealtimes, one might expect behavioral difficulties or maladaptive parent-child interactions across settings. For example, if a child learns that they are able to effectively escape or avoid taking bites by running away from the food or table when asked to eat, this antecedent (presented with an undesired task) – behavior (run away) – consequence (escape task) contingency may generalize to other contexts in which other undesired tasks are presented (i.e., asked to clean up toys). Further, if caregivers do not have an effective response to the child running away, they too may respond similarly (i.e., allow escape) when confronted with the child running away in other contexts.

Recent research has started to examine the relationships between food refusal and behavioral symptoms or concerns outside of the meal setting in children with autism spectrum disorder (ASD). Johnson and colleagues (2014) conducted a study involving 256 children with ASD with the aim of describing the relationship between core and associated behaviors of autism and feeding/mealtime difficulties. Regression analyses indicated strong relations between higher rates of caregiver-reported repetitive behavior, sensory differences, externalizing and internalizing behavioral problems, and problematic feeding/mealtime behavior regardless of intellectual functioning level. These data suggest that children with ASD who display disruptive behavior outside of meals also engage in the same behavior at mealtimes.

Similarly, Postorino et al. (2015) examined clinical and behavioral presentations of children with ASD to identify if there were distinctive clinical profiles in children with and without food selectivity. Overall, these investigators found that caregivers of children with food selectivity rated their children as having significantly more internalizing and externalizing behavioral problems, and ASD symptoms relative to those with ASD without food selectivity. These caregivers also reported increased levels of parental stress and parent-child dysfunctional interaction compared to the group of children with ASD without food selectivity. Despite these differences among the groups in parent-rated questionnaires, there were no differences between groups on parent-report measures of adaptive skills or in ASD symptoms when measured by clinicians with the ADOS-G or the ADIR. These authors suggested that parental perception of children with ASD and food selectivity may be different than those of caregivers of children with ASD without food selectivity and may be associated with higher levels of stress. Similarly, Allen et al. (2015) found that caregivers of preschoolers with ASD who endorsed higher levels of feeding problems were more likely to report higher levels of autism symptoms, sleep difficulties and other behavioral difficulties, despite feeding problems being unrelated to measures of cognitive and language functioning. Additionally, parents who endorsed more feeding problems reported higher levels of stress than those who reported fewer feeding problems. These previous studies highlight differences in caregiver's perception as well as caregiver-child interactions in children with feeding difficulties and ASD.

To date, there is limited information as to whether children with feeding problems (and their caregivers) experience behavioral difficulties outside of the meal setting. Recent studies suggest that children with autism and feeding difficulties have more caregiver reported behavioral difficulties than children with autism without feeding difficulties (Allen et al., 2015; Johnson et al., 2014; Postorino et al., 2015); however, it is unclear if children with feeding problems (without ASD) also