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[Archived] Feeding Behaviours and Very Young Children: Comments on Piazza and Carroll-Hernandez, Ramsay and Black

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Comments on:

1. Feeding Skill, Appetite and Feeding Behaviours of Infants and Young Children and Their Impact on Growth and Psychosocial Development – Maria Ramsay, PhD

2. Helping Children Develop Healthy Eating Habits – Maureen M. Black, PhD

3. Assessment and Treatment of Pediatric Feeding Disorders – Cathleen C. Piazza, PhD and Tammy A. Carroll-Hernandez, PhD

Introduction

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Feeding disorders commonly occur in the pediatric population, typically affecting developing children as well as children with development delays and medical conditions. Feeding disorders are multi-factored and can emerge from a broad range of causes, including physical abnormalities, neurodevelopmental disorders, appetite regulation problems, metabolic diseases, sensory defects and learned behaviours. Encompassing a wide range, feeding problems vary from picky eating, which may not have an imminent impact on the physical health of the child, to total refusal to eat, which can place the child at risk for nutritional compromise. Given the consequences for growth, cognitive development and physical health for the child with chronic feeding problems, understanding how problematic feeding skills and mealtime interactions develop as well as discerning effective strategies by which to intervene are critical to promoting the long- term health of children. Ramsay, Black, Piazza and Carroll-Hernandez wonderfully review previous research and highlight their own work, which underscores the importance of considering multiple interacting factors when understanding, assessing and treating pediatric feeding problems.

Research and Conclusions

In her overview of feeding and growth in children, Ramsay describes the evolution of feeding skills from a developmental perspective. She illustrates the typical early developmental course of feeding in young children, initially driven by internal cues of hunger and functional oral motor skills, but also modulated by temperament and parent feeding styles. Recognizing the complexity of understanding feeding skills acquisition, Ramsay mentions several other influences, including societal expectations and maternal and family characteristics for child weight and type of food eaten, that contribute to the development of negative feeding patterns and poor growth in the child. Clearly, as evidenced by Ramsay’s thoughtful review, child feeding problems extend beyond the child’s specific characteristics and reflect the influence of several external or environmental factors simultaneously affecting the young child at multiple levels. Therefore, discerning the specific contributors to a young child’s feeding impairment is challenging, given that problematic feeding patterns may be the result of physiologic or functional feeding problems (e.g. limited hunger, poor sucking) but can later become conditioned through learned association with external or environmental cues (e.g. parent feeding practices and beliefs). As Ramsay notes, all of these factors can have a detrimental impact on a child’s feeding behaviours, mealtime interactions and growth.

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Echoing Ramsay's comments, Black further illustrates the impact of the child-caregiver interaction on the development of child feeding patterns and mealtime behaviours. The child's contributions to subsequent feeding problems may include inconsistent or disruptive communication of verbal and nonverbal cues regarding hunger and satiety. In turn, caregivers may have difficulty recognizing or interpreting their child's feeding cues, which can lead to mealtime conflicts. Black reviews several strategies by which caregivers can promote the feeding process, such as modelling positive eating behaviours, establishing consistent and predictable mealtime routines and emphasizing the value of offering nutritionally balanced foods within a positive mealtime atmosphere. Black, however, underscores the importance of the need for multilevel interventions to promote healthy feeding patterns in children, including environmental changes in which restaurants need to include nutritious, yet appealing, food choices for children, and family and individual education that fosters caregiver mealtime management and increases awareness of healthy eating behaviour. These interventions are equally important for children who are underweight or overweight.

While Black's paper provides direction for multilevel interventions to promote the development of healthy eating behaviours for all children spanning the entire weight continuum, Piazza and Carroll-Hernandez focus their review of the research solely on children who are underweight and/or fail to thrive. Similar to Ramsay's and Black's reviews, the authors note the complex causes of pediatric feeding disorders, which can include both biological and environmental factors that are further exacerbated by caregiver management. Demonstrating the effectiveness of intensive, interdisciplinary day-treatment services that are primarily behaviourally-based, the authors provide empirical support for behavioural feeding treatment through outcomes-based data. In their own work, the authors document the fact that children with long-standing feeding problems, many of whom required supplemental feedings via naso-gastric or gastrostomy tubes, were able to meet 70% or greater of their oral feeding goals in the treatment program, with 100% of cases being able to transfer treatment to the home and community. Follow-up data up to 24 months post-discharge from the treatment program reveal that 85% of children continued to make progress toward age-typical feeding.

Implications for Development and Policy

In combination, these three papers illustrate the complexity of feeding development and the mechanisms by which feeding problems emerge in young children. Clearly, pediatric feeding disorders do not have a single origin, but involve several interacting components that result in

atypical feeding patterns that ultimately affect the child, family and society as a whole. Outcomes-based data is critical to understanding the most effective strategies to use when addressing feeding problems in children, and the authors have provided compelling data to support the use of intensive behavioural interventions to advance feeding development in children with chronic feeding and growth problems.

Much more research, however, needs to be conducted within the contexts of the child and family. On the individual child level, very little data has been published regarding the medical, psychological and social longitudinal outcomes of children who were considered “failure to thrive” as infants and have participated in intensive feeding treatment. The physical health, weight, growth and feeding status of this population of children remain unclear, with the exception of results obtained from follow-up studies conducted only up to two years post-treatment. It is not clear, for example, whether children who receive feeding treatment continue to appear significantly dissimilar in their height and weight in comparison to their healthy peers as they grow up, or whether they cease to appear appreciably different in body size and simply have small statures or thin body frames. Previous research reveals that, for low birth weight infants, inhibited growth and development may be a permanent characteristic[1]. Questions also remain regarding whether or not low-weight status children are more, less or just as physically healthy as children who are 90% to 100% of ideal body weight. Therefore, it is important to understand at which point(s) in the child’s development it is appropriate to be more or less concerned with poor growth or weight status. In addition, previously undetected medical, psychological or developmental issues may reveal themselves with maturation for which a specific, characteristic pattern of feeding problems may have been the first indication of an emerging diagnosable problem. Obtaining clarification of these issues may help to determine health-care providers’ choice, course and intensity of treatment for a young child with feeding problems.

Additional research also needs to be conducted within the context of the family, especially with regard to the effects of feeding treatment on family functioning. As illustrated by Piazza and Carroll-Hernandez, research examining behavioural feeding treatment has consistently demonstrated its effectiveness with improving children’s oral feeding skills. Little is known, however, about the effects on family relationships as caregivers begin to transfer behavioural feeding strategies into the home setting. For example, how long do caregivers need to take stringent efforts to address their child’s feeding issues (i.e. when can caregivers stop or decrease

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their use of strict behavioural feeding strategies at meals and allow their child the freedom to eat independently without intervention)? How do such feeding interventions affect the identified child's relationship with his or her siblings? Similarly, what impact does the caregiver's use of behavioural feeding strategies with the targeted child have on the feeding patterns and mealtime interactions of other children in the family who do not have feeding or growth problems?

On a societal level, public policy and programs need to support efforts to promote healthy feeding and eating for children and families through primary, secondary and tertiary prevention of pediatric feeding disorders. Primary prevention efforts would involve halting the development of feeding disorders in children, particularly those known to be at highest risk for developing feeding problems, such as infants born at preterm and very low birth weight[2-3] or families facing environmental and emotional stressors[4-5]. At a minimum, feeding programs need to partner with existing community programs that assume responsibility for reducing risk factors in the general population. For the specific case of feeding and growth, feeding programs need to collaborate with community programs that provide broad nutrition and early childhood intervention and support. In this manner, all children and caregivers, especially those at risk, can have access to education and programming designed to increase knowledge of healthy food choices and developmentally appropriate and positive eating behaviours. Most important, these primary intervention efforts need to be empirically tested to determine whether or not children and families benefit from such support and education in terms of a lowered rate of child feeding problems.

For children who are already experiencing feeding problems, secondary and tertiary prevention efforts need to focus on preventing (secondary) or controlling (tertiary) the negative and costly complications (e.g. naso-gastric or gastrostomy tube dependence) of the feeding problems. Given the complex causes of child feeding problems, children and families must have access to an interdisciplinary team of experts trained in the area of pediatric feeding assessment and treatment so that physiological as well as developmental and behavioural components can be assessed and addressed. The importance of interdisciplinary team care has been well described in the literature[6-7]. Unfortunately, such interdisciplinary assessment and treatment can be costly to provide and may not be available to all children and families, depending on where they live and the resources available. Therefore, to expand availability of services, health-care systems need to support the training of health-care providers to help them learn to identify feeding problems early as well as help them to understand and teach basic feeding and mealtime

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management strategies to caregivers of children with feeding and growth concerns. For children who require intensive feeding treatment, additional models of treatment need to be explored. Albeit effective, behavioural feeding treatment is highly individualized, labour-intensive and requires staff with specialized training to carry out the intervention[8]. Additional research needs to be conducted to determine whether the treatment of choice (i.e. intensive behavioural interventions) can be tailored for implementation within a group format, for example, rather than on an individual treatment basis to reduce health- care costs and expand the availability of treatment services.

If we can help caregivers and health-care providers understand how feeding problems develop in children and the most effective manner of addressing specific acute and chronic feeding problems, more children will likely be able to avoid progressing down the pathway to maladaptive feeding patterns.

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