



Pediatric Feeding Disorders

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Feeding difficulties in children are common and range from mild “picky eating” to more severe food refusal. Symptoms of severe feeding difficulty may include, but are not limited to, disruptive mealtime behavior (e.g., tantruming, gagging, coughing, throwing food, vomiting, refusing to swallow, hitting, spitting, etc.), severe selectivity (limiting intake based on flavor, color, brand, or texture), reliance on supplements (e.g., formula, Pediasure), oral aversion (e.g., avoidance or fear of sensation in or around the mouth), and/or oral motor delays (Coe et al., 1997; Kerwin, 1999; Morris, Knight, Bruni, Sayers, & Drayton, 2017; Williams, Field, & Seiverling, 2010). These problems can result in inadequate weight gain, nutritional deficiencies, and feeding tube dependence (Kerwin, 1999; Morris et al., 2017; Williams et al., 2010).

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Diagnosis

Severe feeding problems are estimated to be experienced by 3–10% of all children, tend to worsen over time, and are often associated with negative developmental and medical outcomes (Kerwin, 1999). Prevalence rates are considerably higher for children with an autism spectrum disorder (approximately 90%; Kodak & Piazza, 2008) and children with a history of chronic medical conditions (40–70%; Lukens & Silverman, 2014). Given that feeding disorders are often impacted by medical, developmental, and behavioral factors, a multidisciplinary team should be involved in evaluation and treatment (Goday et al., 2019; Gosa, Carden, Jacks, Threadgill, & Sidlovsky, 2017; Sharp, Volkert, Scahill, McCracken, & McElhanon, 2017; Silverman, 2010).

There is a lack of consensus regarding diagnostic criteria and appropriate terminology for feeding disorders across professions. Currently, the ICD-10 code “Feeding Problems” is very broad and does not include details about the child’s symptoms. It is often used by medical professionals in the field of pediatrics. The diagnosis of “dysphagia” is commonly used by speech-language pathologists (SLPs) and occupational therapists (OTs) and indicates a swallowing difficulty (Gosa et al., 2017). This diagnosis does not differentiate between oral

motor and behavioral difficulties in swallowing. Avoidant/restrictive food intake disorder (ARFID) was added to the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5). This provides more detailed criteria including persistent failure to meet appropriate nutritional and/or energy needs associated with one (or more) of the following: significant weight loss (or failure to achieve expected weight gain or faltering growth), significant nutritional deficiency, dependence on tube feeding or nutritional supplements, and marked interference with psychosocial functioning (American Psychiatric Association, 2013). However, even when using this diagnosis, it is essential that medical, oral motor, and nutritional areas are assessed in conjunction with feeding behavior in order to develop an appropriate and effective treatment plan (Gosa et al., 2017). Most recently, Goday et al. (2019) proposed a consensus definition and conceptual framework for a unifying diagnostic term “pediatric feeding disorder (PFD)” using the framework of the World Health Organization International Classification of Functioning, Disability, and Health in order to characterize the complex, multisystem, and multidisciplinary assessment and treatment required of PFD. The definition of PFD is “impaired oral intake that is not age-appropriate, and is associated with medical, nutritional, feeding skill, and/or psychosocial dysfunction” (Goday et al., 2019).

Medical Basics

Children with complex medical histories (e.g., constipation, gastroesophageal reflux disease, congenital heart disease, short bowel syndrome, tracheostomy/ventilator dependence, food allergies) have a higher risk of developing a PFD (Gosa et al., 2017; Hawdon, Beauregard, Slattery, & Kennedy, 2000; Lukens & Silverman, 2014), as these conditions can affect a child’s ability and desire to eat. Physical discomfort stemming from medical conditions and procedures may become associated with eating (Di Lorenzo et al., 2005). When this occurs, children learn to engage in refusal behaviors (e.g., turning head, refusing to

open mouth, spitting, crying, gagging, vomiting) in an effort to avoid discomfort. After medical issues are addressed, disruptive behaviors often persist (Babbitt et al., 1994; Haas, 2010).

Food refusal is largely escape-maintained (Piazza, Patel, Gulotta, Sevin, & Layer, 2003). When an aspect of eating (chewing, tasting, swallowing, digesting, etc.) is paired with pain, discomfort, or distress related to a medical condition, developmental delay, or an adverse event (e.g., choking; Seiverling et al., 2016), children are more likely to refuse food or engage in disruptive behavior to avoid pain or distress (LaRue et al., 2011; Piazza et al., 2003). Parents are then more likely to respond by delaying or removing the demand (e.g., put the spoon down, stop the meal; Borrero, Woods, Borrero, Masler, & Lesser, 2010), and children learn that refusal results in escape from eating. Behavioral interventions addressing escape behaviors are effective in treating PFDs (Morris et al., 2017; Piazza et al., 2003; Sharp et al., 2017; Sharp, Jaquess, Morton, & Herzinger, 2010; Williams et al., 2010); however, it is essential for medical factors to be evaluated before intervening to avoid causing further discomfort.

Delays in oral motor skill development, difficulties with swallowing, and aspiration (when food or liquid enters the airway rather than the esophagus) can also contribute to the development and maintenance of PFDs. An expert in oral motor issues and feeding (i.e., SLP or OT) should complete an evaluation to ensure that a child has the appropriate skills to eat efficiently and safely (Arvedson & Brodsky, 2002). Additionally, many children on tube feeds do not experience typical hunger cues, which can impact the desire to eat (Linscheid, 2006; Schauster & Dwyer, 1996).

Formulation

As noted above, a multidisciplinary evaluation is strongly recommended given the medical, nutritional, oral motor, and behavioral factors that impact feeding (Sharp et al., 2017). An SLP or OT should be involved to comprehensively assess oropharyngeal swallowing function, provide

guidance on addressing oral motor deficits, provide instruction on compensatory swallowing techniques, and ensure swallowing safety with least restrictive diet textures. Many children have swallowing deficits that require patient-specific utensils, cups, positioning, textures, or bolus¹ size. It is imperative that these recommendations are consistently followed in order to prevent aspiration during treatment. SLPs or OTs can also perform instrumental assessments, such as Videofluoroscopic Swallow Studies (VFSS) and Fiberoptic Endoscopic Evaluation of Swallowing (FEES), for the subset of patients that require additional evaluation. Finally, SLPs or OTs will closely monitor the patient's progress with oral motor abilities and advance texture and bolus sizes as appropriate.

A registered dietitian (RD) assesses the anthropometrics of the child. This can include height, weight, weight for length, body mass index, mid-upper arm circumference, and hand grip strength. Nutrition-focused physical assessments are also typically performed to look for indicators of malnutrition and micronutrient deficiencies. An RD will often request a 3-day diet record to help evaluate the child's nutrient intake (Green Corkins & Teague, 2017). The goal is to provide guidance on calorie and protein requirements to promote age-appropriate growth and encourage nutritional quality of the child's diet. An RD also provides information regarding age-appropriate portion sizes, fluid requirements, and tube feeding weaning schedules if that is the goal of treatment. Adjustments of tube feeding schedules to more closely mimic mealtimes and promote hunger may be necessary (Babbitt et al., 1994; Schauster & Dwyer, 1996). More information on tube feeds can be found on the Feeding Tube Awareness Foundation's website (<https://www.feedingtubeawareness.org>).

From a medical standpoint, patients with PFDs will be monitored by their pediatrician or specialty care provider, often a pediatric gastroenterologist (GI). The GI often monitors and

treats concerns such as constipation, gastroesophageal reflux disease, eosinophilic esophagitis, delayed gastric emptying, abdominal pain, nausea, and vomiting. Depending on medical history, patients may be followed by another specialty care provider (e.g., cardiologist, nephrologist, surgeon) regarding those concerns, which may also impact feeding. Psychologists should ensure that patients are being followed by their medical providers to rule out, monitor, and avoid discomfort while eating and to support stamina to eat.

From the behavioral perspective, assessment should include a medical record review, a clinical interview, and a feeding observation. The clinical interview should include a history of the presenting feeding concern, medical and developmental history, mealtime behaviors, caregiver response to mealtime behaviors, mealtime routines, types of food eaten consistently, additional behavioral concerns outside of feeding, mental health history, and family stressors. Feeding observation will allow for assessment of caregiver-child interactions and disruptive mealtime behaviors. Standardized rating scales are also available specifically for feeding, such as the Behavioral Pediatric Feeding Assessment Scale (Crist & Napier-Phillips, 2001) and the PediEAT (Thoyre et al., 2014). Standardized rating scales of behavioral and emotional functioning may also be useful (e.g., Child Behavior Checklist; Achenbach & Edlebrock, 1993). Given time constraints of brief consultation, these measures may be most useful in the context of consultation that will involve long-term treatment (e.g., a long inpatient admission).

Intervention

Existing research indicates that strategies used in the treatment of PFDs should be behavioral with guidance in formulating the treatment plan from other disciplines including medical providers, SLP, OT, and RD (Sharp et al., 2017). The treatment environment and format for PFDs include outpatient, intensive day treatment, and intensive inpatient (Lukens & Silverman, 2014). One of

¹In the context of oral feeds, bolus refers to a round mass of food material, typically chewed.

the more important decisions in the context of consultation for feeding difficulties is the extent to which immediate behavioral intervention is warranted or whether referral for long-term care is more appropriate. It is crucial to ensure that the child is physically ready to proceed comfortably and safely with behavioral treatment. If a child has ongoing illness, is at risk for aspiration, or has a condition that causes discomfort, behavioral treatment is contraindicated until these symptoms are addressed.

Next, it is important to consider the time and resources necessary, including adequate training in behavioral treatment for PFDs and sufficient time to effectively implement the strategies and train caregivers. Additional materials may be needed, such as specific types of food or formula and specialized cups or utensils for safe consumption. Caregiver buy-in, readiness, and commitment are crucial for behavioral treatment to be effective. Inconsistent or improper implementation of behavioral feeding strategies can inadvertently strengthen the problem behavior or aversion. The relative risk of worsening the feeding problem should be strongly considered prior to implementing or recommending any behavioral feeding strategy (Silverman, 2015). In general, if a child has a chronic history of feeding difficulties, has never consistently eaten a developmentally appropriate variety of foods and textures, or has significant disruptive mealtime behaviors, the child will require more intensive feeding therapy than can be provided within a few encounters in the context of consultation. If a child requires intensive feeding therapy, it is not advisable to begin treatment without scheduled outpatient follow-up. The decision-making tree in Fig. 1 was crafted to assist psychology consultants with assessment and determining an appropriate direction for treatment.

Treatment Planning

Behavioral treatment for feeding problems must ultimately address the function of the behavior in order to be effective. It is well established that the primary function of food refusal and disruptive

mealtime behavior is escape (Piazza et al., 2003). Therefore, a central component of behavioral feeding intervention consists of no longer allowing a child to escape or delay eating contingent on refusal or disruptive behavior (Sharp et al., 2010; Williams et al., 2010).

Treatment goals for behavioral feeding intervention in the context of consultation generally include increasing the volume and variety of food and drinks accepted and decreasing disruptive mealtime behavior. Multiple strategies exist and must be individualized to the needs of each child. The following strategies are not mutually exclusive and often used in combination (Lukens & Silverman, 2014).

Antecedent Manipulation

Antecedent manipulation often includes establishing a positive feeding environment with minimal distraction, altering the feeding schedule to promote hunger (as recommended by an RD), and modifying how food is presented. Stimulus fading is a type of antecedent manipulation that refers to systematically changing an aspect of the stimulus presented (e.g., flavor, texture, volume) to closer approximate the target stimulus. For example, if chocolate milk is a preferred drink and the goal is to increase water intake, stimulus fading would consist of slowly increasing the ratio of water to chocolate milk until the child is accepting water (Luiselli, Ricciardi, & Gilligan, 2005). Another example would include first presenting a very small bite of a nonpreferred food (e.g., turkey deli meat in the size of a grain of rice) and gradually increasing the size of the bite until it is a developmentally appropriate bite size. The nonpreferred food could also be presented on a preferred food (e.g., cracker) with the size of the preferred food systematically decreased until the child is eating just the nonpreferred food. Stimulus fading has been effectively used with other behavioral strategies (e.g., differential reinforcement and escape extinction) to increase acceptance of volume and variety (Kerwin, Ahearn, Eicher, & Burd, 1995; Williams et al., 2010).

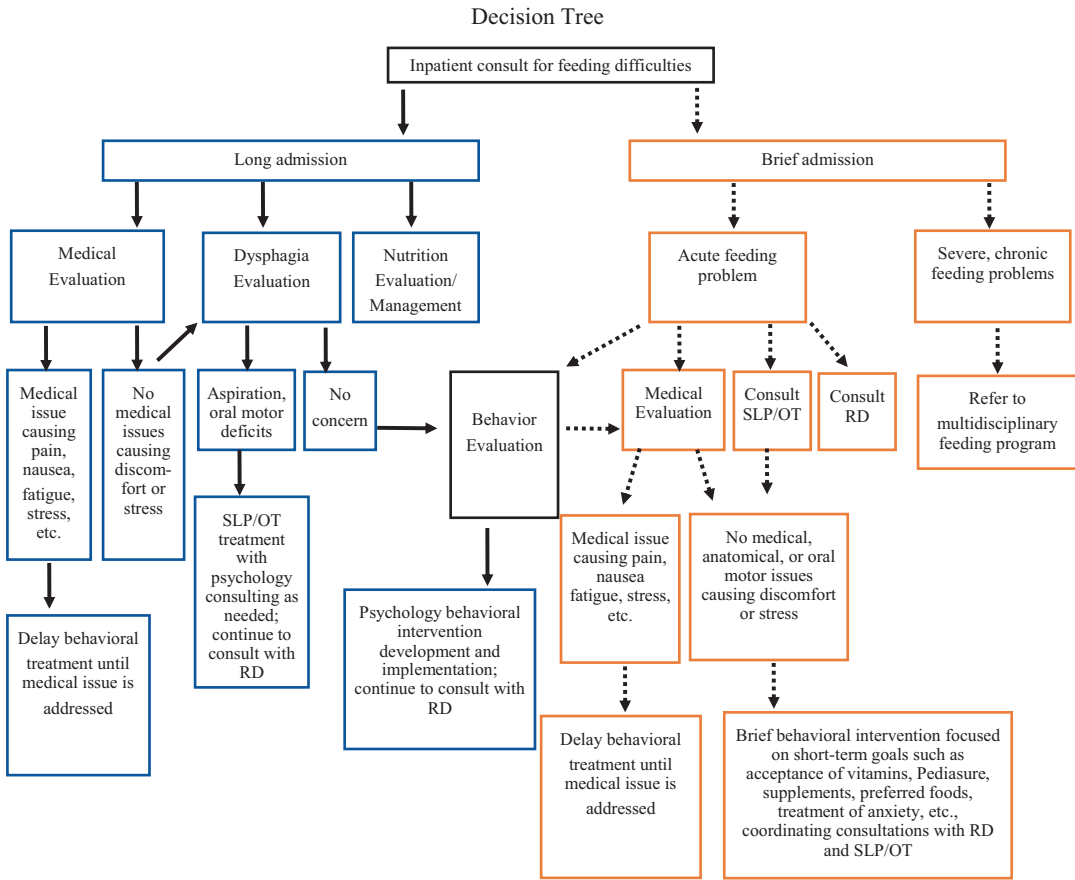


Fig. 1 Decision tree

Escape Extinction

Escape extinction (EE) consists of keeping the feeding demand in place until the child accepts the bite. In other words, refusal behaviors no longer result in escape (e.g., the spoon or cup is kept at the child’s mouth until the bite or drink is accepted or expelled food is re-presented until it is swallowed; Ahearn, 1996; Penrod & VanDalen, 2010; Piazza et al., 2003; Sharp et al., 2010). EE is the most empirically validated and essential treatment component to eliminate food refusal and is often used in conjunction with other strategies such as stimulus fading, differential reinforcement, and noncontingent reinforcement in order to minimize the severity of refusal behaviors and extinction bursts (Piazza et al., 2003; Sharp et al., 2010).

Careful consideration must be made before implementing EE, as there are many situations in which it may be contraindicated in the context of consultation. Extinction bursts can be difficult for providers with little training managing the behavior and for parents who are not fully prepared and in agreement with the use of the strategy. It can require a significant amount of time to implement if the child’s refusal behavior persists. Time, parent buy-in and preparation, and consistency are vital to effectively implement EE. Adequate training for all caregivers who will be implementing the strategy is also crucial, as there is a high risk that improper implementation will reinforce more intense and persistent refusal behavior.

Reinforcement Strategies

Differential reinforcement consists of providing reinforcement contingent on accepting and swallowing food (Kerwin, 2003). Reinforcers must be meaningful to the child and can be tangible (e.g., bubbles, toys, videos), attention-based (e.g., cheering, clapping, singing), and escape-based (e.g., short break from the meal). A combination of all types of reinforcers can also be used (e.g., 30 s break with a video, cheering with bubbles after each bite or sip) to increase the potency of the reinforcement. Timers can be used to establish clear expectations regarding how long a child has to take a bite to earn the reinforcer and to signal break time. Demand fading is often used in conjunction with differential reinforcement and consists of gradually increasing the volume or number of bites required in order to earn the reinforcer (Najdowski et al., 2010; Piazza et al., 2002). Differential reinforcement alone is often not enough to increase oral intake but when used in conjunction with EE can significantly reduce disruptive behavior (LaRue et al., 2011; Patel, Piazza, Martinez, Volkert, & Santana, 2002).

Noncontingent reinforcement (NCR) consists of providing attention and access to preferred items during the meal independent of the child's behavior. This strategy is largely used to decrease the aversiveness of the mealtime for the child (Reed et al., 2004). This strategy can be used as a first-line treatment approach for children with low-level feeding difficulties (e.g., otherwise healthy, developmentally appropriate diet at baseline but refusing due to an adverse event associated with eating). In children with more severe PFDs, NCR alone will not be enough to increase oral intake (Reed et al., 2004).

Systematic Desensitization

Systematic desensitization consists of repeatedly pairing the conditioned aversive stimulus (food, fluid, cup, spoon, etc.), with eating or drinking without an aversive unconditioned stimulus (e.g., swallowing without choking, eating without pain; Silverman, 2015). Graduated exposure begins with the least aversive presentation (e.g.,

empty spoon, bite the size of a grain of rice) and progresses along an exposure hierarchy tailored to the objective. It can be used to gradually advance volume, texture, and variety of foods, and it is often used in combination with EE and differential reinforcement (Tanner & Andreone, 2015).

Treatment Engagement

An often overlooked aspect of helping children and families with feeding difficulties is engaging parents and children from the start of treatment. Even with a solid behavior plan that incorporates a variety of disciplines, if the family does not believe in the process or collaborate in planning, they are unlikely to make lasting changes. Many families may not understand the reason for behavioral intervention and feel they need to find the medical "root cause" of the problems. Several strategies can help increase family buy-in from the beginning.

Initial Consult

Like any therapeutic alliance, engagement with the family starts at the initial meeting. Because feeding is such a basic need, families are often highly stressed when there is difficulty meeting this need. Although other disciplines may have asked about specifics related to feedings, psychologists are uniquely suited to listen to families about how feeding challenges are impacting their daily lives, family dynamics, and the guilt parents feel over not being able to feed their child. Assessing these aspects enables providers to understand the full picture and determine how feeding integrates into the families' lives. Similarly, it is important to understand which aspects of feeding are the family's primary concern. Although providers may be most concerned about tube weaning or increasing volume, a family may be more focused on increasing variety of foods. If the family does not see how a treatment plan is working toward their personal goals, then they are less likely to follow through (Kazak, Simms, & Rourke, 2002).

It is important to include the child in assessment and treatment planning. Whenever possible, assessing a child's eating in the first session shows families that recommendations are informed by direct observation and allows the opportunity to model specific strategies. Although most of the gains made with behavioral feeding therapy are made through parent training, parents are more likely to participate in treatment when they believe their child has been directly assessed. In cases of ongoing therapy, establishing rapport with the child from the outset of treatment also increases the value of provider attention to help shape behavior.

Cultural Factors

During the first contact with the family and in all treatment sessions, it is important to assess how the family's culture impacts the child's life. Food and feeding are inherently intertwined with culture (Hughes et al., 2006), and integrating a family's cultural views is vital to engaging families in a feeding plan. For example, many cultures view children as the master of their domain and allow them to explore the world with few limitations aside from safety. A family with these values may have difficulty following a rigid schedule, using a high chair, and using limit setting strategies such as differential reinforcement and EE. In these situations, making 1–2 small changes at a time or identifying strategies that would fit within the family's culture is vital. Similarly, the foods chosen in treatment should fit within the family's diet and lifestyle. Cultures also vary widely in tolerance of children becoming upset, which significantly impacts the likelihood that they will follow through with a behavior plan involving EE, so all procedures should be thoughtfully explained and agreed upon in advance.

Collaborative Behavior Plans

Families will have more treatment gains when they are a partner in creating the treatment plan (Kitzmann, Dalton, & Buscemi, 2008). This can

mean talking with families about initial recommendations, feasibility, and potential barriers. For example, it is often recommended to sit at the table for three meals and two snacks on a schedule. However, some families do not own dinner tables or are not home most nights of the week due to extracurricular activities. If a plan is given without considering the family's lifestyle, then the family is likely to terminate implementation prematurely or resort to modifications that may be counterproductive.

Behavior plans should be written without jargon and in a way all individuals involved can easily understand. Plans should be reviewed with all caregivers prior to implementation to problem-solve potential barriers (e.g., how the plan will work on school days versus weekends).

Small Successes

Finding ways to demonstrate small successes from the outset of treatment also helps children and families trust the strategies (Friars & Mellor, 2007). Treatment gains during an admission will depend on the child's feeding challenge, chronicity of the condition, and physical limitations. Early success can often be facilitated by setting small goals with easy or highly preferred foods to teach the child that they are rewarded for participating. Then, talking with families about how these strategies will be applied to difficult feeding challenges provides them with a map to see how treatment will help them reach their goals.

Inpatient Consultation

Inpatient consultation for feeding problems can occur for a variety of reasons. On medical units, common diagnoses and problems include failure to thrive (FTT), gastrointestinal discomfort (e.g., abdominal pain, nausea, vomiting), difficulty resuming oral intake after a medical procedure, and food refusal after a choking incident. Physicians often approach feeding cases with the task of determining whether symptoms are related to an organic, anatomical, or behavioral feeding problem (Piazza, 2008). Realistic expectations for goals

and intervention success will vary widely depending on length of stay, chronicity and intensity of presenting issues, and psychologist's role as a consultant to the team.

Psychology's Role

One important distinction between outpatient treatment and inpatient consultation is that families often may not be the stakeholders initiating treatment. When children are admitted with a feeding-related or GI problem, families are often seeking medical solutions. This may present a challenge regarding how psychologists approach the consultation with the family. It is important to know who initiated the consult and what is communicated to the family about psychology involvement. Families may have varying degrees of openness to collaborate with psychologists if they do not understand how behavioral supports can help their children. Providers who initiate psychology consults also may not have a clear idea of what is needed, and psychologists must often provide this education to shape consultation questions and expectations. It may also be necessary for the psychologist to suggest involvement of other disciplines that may have yet to become involved (e.g., RD, SLP, OT).

Inpatient Treatment

Treatment on an inpatient unit often must be brief due to short length of stay. Psychologists must be realistic about what can be accomplished during the admission given multiple care providers and many competing needs. For example, it can be difficult for families to adhere to a strict meal schedule when the child is being taken away for procedures or waiting on medication delivery. It is important to communicate with all members of the care team about a realistic behavioral treatment plan. Posting written information in the patient's room and nursing orders in the chart can increase the likelihood that a plan will be followed. Given the multifaceted nature of feeding

problems, it is often appropriate for psychology to co-treat with other disciplines (e.g., SLP or OT) to ensure the intervention is implemented safely (from a swallowing standpoint) and effectively (from a behavioral standpoint).

Recommendations

Typically, medical teams and families expect specific psychology recommendations to be implemented during an admission and/or as part of discharge planning (Lassen, Wu, & Roberts, 2014). Recommendations may fall short if they are not modeled and families or staff are not coached on implementation. Therefore, a critical element of inpatient consultation is the meal observation. Psychologists may only get one or two opportunities to work with a patient before discharge, so it is important to look for an immediate point of intervention. Depending on the presenting issue, a psychologist may model behavioral strategies to improve compliance with oral intake, establish a reward system to encourage participation, and educate families on use of timers, setting small goals, and improving mealtime structure. Unlike the outpatient setting, in most cases, it is not realistic to establish an elaborate treatment plan or assume there will be multiple opportunities to practice meals with families during inpatient consultations.

Planning for Success

In addition to communication with the team, inpatient feeding consults often require a great deal of logistical planning. For instance, it is often necessary to plan ahead with families and nurses to ensure the appropriate food is available at the time of consultation. Patients and families are not always available at the same time as providers. Coordination with medical staff is often necessary to ensure a patient is available and hungry when you arrive for a meal. Co-treatment may also be helpful if other providers have been consulted for feeding-related issues.

Referrals

Since many feeding issues requiring hospitalization are long-standing or severe, they cannot be fully treated before a patient is discharged. Therefore, a consulting psychologist is often tasked with referring families to local providers for ongoing outpatient feeding treatment. This requires knowledge of behavioral or multidisciplinary feeding referral options within the institution or local networks. Families who are not local to the hospital will need to be referred to providers in their own area, which may include SLP or OT when appropriate. If families are willing to travel, referral to an out-of-town intensive feeding program may also be an option.

Outpatient Consultation

When providing care in a multidisciplinary clinic, it is likely that other providers will refer to psychology for behavioral feeding issues. It is important to always keep the medical, nutritional, and oral motor factors in mind during any consultation. If a child is referred for general picky eating and is seen regularly by psychology and RD in clinic, then developing a behavior plan for incorporating new or nonpreferred foods may be appropriate. A referral to an outpatient behavioral psychologist who can collaborate with an RD may also be appropriate.

However, this chapter focuses on children with more severe PFDs. Unless psychology providers have extensive training in the assessment and treatment of PFDs, it is recommended to refer to a feeding program with a multidisciplinary team (psychology, SLP/OT, RD, MD) with a focus on behavioral intervention. Appropriate referrals may also include medical evaluation by a sub-specialist to assess possible causes of discomfort while eating, oral motor skill evaluation by an SLP or OT, evaluation by an RD to plan a nutritional diet or consolidate tube feeds, and weight checks and medical monitoring by the pediatrician.

Case Example

Gavin is a 19-month-old Nepalese boy who was admitted to the hospital for FTT and weight loss over the previous 4 months. Prior to admission, he only breastfed consistently for nutrition. The family attempted to feed him 4–5 times per day, and he typically refused all food (i.e., throwing, expelling, refusing to swallow). His family immigrated to the United States 9 months prior to his admission and did not speak English. He lived with his biological parents with no local extended family support. Upon admission, a nasogastric (NG) feeding tube was placed. He received small bolus tube feeds² of gradually increasing volume to monitor for re-feeding syndrome (a serious condition characterized by fluid and electrolyte imbalances that can lead to organ dysfunction when feeds are introduced after prolonged malnutrition).

Intake

Psychology and SLP were consulted to conduct a joint evaluation and create a feeding plan after tests showed no medical cause of the feeding problems. The family initially questioned the need for psychology and SLP involvement, and providers explained their respective areas of expertise and rationale for involvement. Providers obtained detailed background information, including medical and family history, barriers to participation, and cultural feeding practices. Then they observed two meals. For the first 5 min, providers observed parents feed Gavin. His mother held him on her lap and offered a graham cracker. Gavin immediately pushed it away and then turned and cried. Parents offered sips of water from a cup, from which Gavin also turned away and cried. The family noted they usually stop at this point.

²In the context of tube feeding, bolus refers to delivering a specified amount of fluid in a discrete period of time (e.g., 30 min).

After a brief break, providers explained the rationale for behavioral strategies and the potential for an extinction burst. The family agreed to the treatment strategies. Gavin was placed in a high chair, oriented to several potential reinforcers, and selected cartoons. Providers learned the Nepali translation for “take a bite” and used this prompt to facilitate understanding and home practice. Gavin was given bites of an empty spoon and empty straw to teach him when he takes bites, he gets a break with video access and praise. After five empty presentations, he accepted puree and small sips of apple juice. At the end of the assessment, he took 12 bites of banana puree, 5 sips of apple juice, and small bites of graham cracker. The SLP recommended offering purees and thin liquids based on his skill. Providers developed the behavior plan (Appendix) in collaboration with his family, which was posted in the room and placed in nursing orders.

Consultation Follow-Ups

Gavin was admitted for a total of 10 days. Psychology conducted three follow-up visits, and the SLP followed up twice. Visits were staggered, so Gavin was seen by one provider every weekday of admission. Over the weekend, his family practiced meals with puree and preferred drink (apple juice), with NG tube feedings scheduled after meal presentations. He worked up to full meal boluses every 3 h while awake. During the second psychology visit, parents practiced implementing the feeding plan, and the psychologist provided coaching on selective attention, simple instructions, and use of reinforcers. Gavin consistently finished 13 presentations each of the puree and drink. At this consultation, potential benefits of outpatient therapy were discussed given that he would likely be discharged with an NG tube. The family was in agreement and scheduled an outpatient follow-up visit before discharge.

At the third visit, Gavin accepted puree but completely refused a change from juice to formula. After the meal ended, the family and team

decided to focus on increasing his acceptance of preferred foods and planned to gradually transition him to less preferred foods once he was eating consistently. During the final consultation, providers discussed how to integrate the behavioral strategies at home, processed potential barriers, and reviewed scheduled plans for medical and psychology follow-up, with a plan to transition to therapy once his behaviors were consistently more participatory at mealtimes.

Post-Discharge

Gavin attended a total of four outpatient psychology sessions to address behavioral feeding challenges. His disruptive behavior escalated significantly following discharge, and the team and family decided that Gavin would benefit most from an intensive treatment model. Before attending the intensive program, he was diagnosed with autism spectrum disorder as part of a developmental evaluation. He attended an 8-week intensive outpatient multidisciplinary feeding program. At the end of the program, he was eating and drinking consistently, and his NG tube was removed. His family was able to feed him consistently at home.

Summary

Gavin was admitted to the hospital for FTT and NG tube placement and to monitor for re-feeding syndrome. The goal was not to resolve feeding difficulties prior to discharge, but to stabilize him medically, establish a foundation for behavioral treatment, and facilitate outpatient referrals. Assessing family barriers and providing instruction in a culturally sensitive way were vital for establishing family buy-in to treatment.

Conclusion

Assessment and treatment of PFDs require multidisciplinary collaboration to meet the patient's physical, developmental, and behavioral needs.

Behavioral feeding strategies are the most effective, evidence-based approach for treating PFDs, but these strategies must incorporate guidance from medical providers, SLP, OT, and RD. Careful consideration should be given to cultural factors and resources (e.g., time, training) necessary for assessment and treatment when formulating the most appropriate treatment plan in the context of consultation.

Appendix: Gavin's Initial Feeding Plan

- Gavin will have tube feedings every 3 h starting at 8:00 am (8:00 am, 11:00 am, 2:00 pm, 5:00 pm, 8:00 pm). Thirty minutes before tube feedings, his family will complete a high chair meal.
- Gavin's goal is to complete five bites of food and five drinks per feeding.
- A timer will be set for 15 min at the start of each meal.
- If Gavin finishes his goal volumes at every meal for the day, increase the goal by two sips each day.
- During meals, he can watch cartoons if he is accepting bites, but if he is refusing, then this will be paused until he accepts the next bite. He gets lots of praise and attention if he is participating and no attention with simple prompt to take a bite (in Nepali) if he is refusing. He should not watch cartoons between meals, so they are more interesting when meals begin.
- If Gavin finishes his goal number of bites, he should immediately be allowed out of high chair and be able to leave. If he does not take his bites, continue to prompt him until he accepts or his timer goes off.

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