



Adolescent Anorexia: Guiding Principles and Skills for the Dietetic Support of Family-Based Treatment

REGISTERED DIETITIAN NUTRITIONISTS (RDNs) play a significant role in the treatment of adolescent eating disorders; however, there are limited clinical practice parameters to guide providers. Anorexia nervosa (AN) is a life-threatening illness that typically begins in early- to mid-adolescence and can be associated with a chronic lifetime course of illness. The importance of renourishment efforts during the first 5 years of illness is critical.¹ Family-based treatment (FBT) is an empirically supported psychotherapy approach designed as a first-line treatment that empowers families to address and reverse the factors maintaining AN.² FBT studies have not utilized RDNs, despite their central involvement as a member of the eating disorder treatment team in standard clinical practice. RDNs can help families with home-based refeeding, as they can help to facilitate greater energy density and food variety, sooner rather than later, which are associated with best prognosis.² The goal of this paper is to propose initial guidelines for the integration of nutrition services in the provision of FBT using FBT-informed principles.

Eating disorders are complex psychiatric and medical conditions that require a comprehensive and

interdisciplinary approach. The American Psychiatric Association,³ American Academy of Pediatrics,^{3,4} and Academy of Eating Disorders⁵ all recommend a multidisciplinary approach that includes medical, psychiatric, and nutritional support. RDNs have several resources available to inform clinical practice, including a position paper, a practice paper, Standards of Practice, and Standards of Professional Performance, a pocket guide prepared by the Academy of Nutrition and Dietetics, and a guide on CEDRD (Certified Eating Disorders Registered Dietitian) certification in eating disorder care by the International Association of Eating Disorder Professionals.^{2,6-9} The delineation of responsibilities and scope of practice between mental and nutritional health care in eating disorders has been described previously.¹⁰ To date, there are no dietetic practice guidelines for adolescent eating disorders, despite the fact that adolescence is a time of significant onset of eating disorders, AN in particular.¹¹ AN is associated with the greatest morbidity and mortality of any mental health condition,^{11,12} has a median age of onset of 12.3 years,^{11,13} and is generally considered a disorder of adolescence. Interventions with adolescents require unique and treatment-specific goals. Loeb and colleagues¹⁴ noted differences in symptoms, presentation, and treatment of AN between children/adolescents and adults. Although dietetic practice guidelines mention adolescents as a unique subpopulation and recognize the evidence supporting FBT (the recommended first-line approach for treating this population), the opportunity for exploration of the role of the RDN in this modality remains.^{2,7} This paper seeks to help RDNs understand the theory and principles of working with adolescent AN, specifically when the family is concurrently pursuing an FBT approach.

Traditionally, treatment of eating disorders has emphasized the importance of individual counseling and motivational enhancement of the patient in making behavioral changes to their intake. Embracing the family through the utilization of FBT assumes and therefore repositions parental behaviors as a consequence rather than the cause of the development of eating disorders. This contrasts with historical biases of parental blame, which may have ultimately impacted treatment course and outcomes. Instead, parental behaviors are understood as a response to rigid and restrictive eating challenges in the adolescent, rather than causative in nature.¹⁵ Parents are seen as critical resources in helping their child overcome the illness, and they require education about eating disorders to understand their child's nutritional and psychological needs. Parents are considered central members of the treatment team and are valued for their unique perspective on their child and family. Using this framework, we highlight the distinct skills RDNs offer to the treatment team. This paradigm shift reframes the role of the RDN, who previously may have focused on patient choices and provided a specific set of skills for recovery that engaged with the prescriptive and rigid nature of AN. Theoretically, FBT presses for empowering parents and using existing parental knowledge to promote change. The RDN's familiarity with behavioral and medical consequences of malnutrition as well as the specific nutritional needs for recovery provides a unique means of empowering parents. RDNs can provide knowledge with regard to how much to eat, what to eat, when to eat, and how to navigate complex food systems or circumstances. Further, as the adolescent engages in more independent eating and age-typical behaviors, the RDN serves as a guide for helping the family

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navigate changing needs for energy balance over the lifespan.

FBT is divided into three phases that span roughly 1 year of treatment. In the first phase, parents are charged with the task of renourishment. In the second phase, treatment shifts toward supporting the adolescent in learning how to nourish themselves as consistent with developmental expectations for independent feeding. In the final phase, adolescents become self-directed, developing independent behaviors around food as well as activities and peer relationships. The focus in phase 3 is on resumption of healthy development more broadly, with an emphasis on skill-building and relapse prevention. Early research indicates the critical importance of early weight gain,¹⁶ as well as the transfer of independence back to the adolescent to insure that normalized eating behaviors can be self-sustained. Extensive literature reviews on FBT exist, including a treatment manual and a parent's guide,¹ which will not be further elucidated here. FBT is a gold-standard, evidence-based intervention for adolescent AN; it has historically demonstrated better clinical outcomes when compared to individual approaches.^{1,17-20}

This article proposes a framework for the integration of nutrition services within the context and support of FBT for adolescent AN. Here, we propose that RDNs embrace an evidence-based adolescent eating disorder treatment, FBT in particular, to provide on-going support to interdisciplinary treatment teams working with eating disorder youth and play a vital role in filling the research practice gap. In communities where RDNs may be the "first line of defense" or on teams in which the use of RDNs is part of a comprehensive program that may be utilizing an FBT approach, establishing the role of the RDN in supporting FBT efforts is critical to providing coherent interdisciplinary care. The following section describes the primary tenets of FBT, which introduce and elucidate the theoretical underpinnings of FBT for RDNs.

KEY PRINCIPLES FOR THE RDN PRACTICING FBT

The primary tenets of FBT (Figure 1) include a focus on current symptoms,

with the primary aim of weight restoration and disruption of eating disorder behaviors. The focus early in treatment is on assisting parents in managing challenges to the renourishment process. In this context, an FBT therapist strives to empower parents in communicating that they have many of the tools/resources to feed their child in consultation with the eating disorder-specialized interdisciplinary team. Externalization of illness, namely separating healthy aspects of the child from their illness is critical in redirecting self-blame and criticism of their child. In prioritizing a focus on renourishment, FBT providers maintain an agnostic stance, highlighting challenges associated with identifying a specific cause, dispelling common myths, and emphasizing data supporting prioritization of symptom disruption over insight on cause.¹⁹ These are principles for RDNs to keep in mind as they implement an FBT-aligned approach.

Parental Empowerment and Parent-Managed Refeeding

Parental empowerment is thought to be targeted through provision of expert knowledge. Here, RDNs can provide an extensive assessment and intervention as outlined in the position and practice paper of the Academy of Nutrition and Dietetics, which can include performing anthropometric measurements, interpreting biochemical data, evaluating dietary habits/patterns, assessing behavioral-environmental symptoms, and applying a nutrition diagnosis/plan.^{2,6,21} Thus, RDNs in FBT make a fundamental shift toward supporting, rather than prescribing, parents' renourishment efforts. Contrary to the prescriptive meal plans offered in individual treatment, nutrition support in FBT centers on the parent's intuition of meal planning. Further, the tone in which providers communicate with parents in FBT reflects a non-blaming and non-pejorative stance in keeping with the belief that parents are not to blame for their child's illness. The rate of parent learning is expected to vary greatly from family to family, and data suggest that increases in parental self-efficacy early in treatment are found to predict greater adolescent weight gain.²² RDNs in this model therefore look for potential barriers to learning and applying new skills as they monitor

parental confidence.²² They explore and emphasize family strengths and facilitate parental learning through joint assessment within the interdisciplinary team.

The RDN's Role in the FBT Team Assessment

Interdisciplinary teamwork is essential for eating disorder recovery.⁶ Team members may include medical doctor, family-based therapist, psychiatrist, RDN, occupational therapist or speech language pathologist, and the family.¹⁵ Close contact is necessary to monitor the psychological and physiological well-being of the patient/family, while staying aligned in treatment recommendations. RDNs can help to determine weight, height, and body mass index goals, as well as the patient's percentage of that weight. Subsequently, they can also provide a projected rate of weight gain. They also estimate the patient's nutritional needs, specifically their calorie, protein, and fluid goals. Given the extraordinary circumstances and risks of eating disorders, such as hypermetabolism, abnormal laboratory values, refeeding syndrome risk, and malnutrition status, RDNs are well-positioned to adjust nutritional and projected rate of weight gain goals to address these.² RDNs also allow team members to more frequently reinforce basic eating disorder facts and align with consistent nutrition and eating disorder messaging. They can provide education about eating disorders: what they are, how new research informs us (eg, gut microbiome, genetics, neurobiology), and how this new science informs treatment. RDNs can also assist the team in reconciling the family or patient's self-report of nutritional intake and challenges/barriers in contrast to objective data, such as weight and vital sign progress.²³ Their nutrition expertise addresses unique subpopulations, such as those with diet-restricting comorbidities (eg, diabetes, celiac disease, gastrointestinal disorders, food allergies); cultural norms (eg, Kosher, halal, vegetarian); or psychosocial factors (eg, food insecurity). Subpopulations may also include those with increased energy needs, such as athletes or adolescents that require catch-up growth. The RDN may provide valuable information to the family

Keep parents focused on renourishment
<ul style="list-style-type: none"> • Assist parents in establishing renourishment goals (eg, weight restoration, gradual removal of physical activity restrictions, modifying nutrition for special occasions, trips/vacations, school transitions, etc). • Align family's level of nutrition support and monitoring with family's schedule, food culture, and eating pattern. • Translate assessment of current state and presenting symptoms of the illness to solution-based actions that support "food as medicine" prescription while empowering parents.
Prioritize Weight Restoration
<ul style="list-style-type: none"> • Assist parents in understanding how current food practices affect weight progress and clarifying steps to address weight-specific goals. <ul style="list-style-type: none"> ◦ Assist in meal planning through encouraging parent-generated solutions. ◦ Review calorie counts and focus on prioritizing caloric density, portion size, and frequency. ◦ Adjust plans to account for energy output. • Enhance parental knowledge about weight restoration goals through review of past growth trajectory.
Externalize the Illness
<ul style="list-style-type: none"> • Help parents identify irrational nutrition beliefs that reflect the eating disorder. • Model use of language that separates pro-eating-disorder behaviors from those that are pro-recovery for parents. • Separate eating disorder food preferences from client's food preferences. <ul style="list-style-type: none"> ◦ Query chronology of food preferences (eg, vegetarianism/veganism, fried foods).
Manage barriers to renourishment process
<ul style="list-style-type: none"> • Assist parents in aligning cultural food practices with renourishment needs. • Address challenges related to food insecurity. • Manage complicated medical barriers to renourishment (renourish, despite conditions requiring dietary restriction, eg, chronic kidney disease, diabetes, irritable bowel syndrome, celiac).
Increase Parental/Caregiver Alignment/Empowerment
<ul style="list-style-type: none"> • Align parental food beliefs and feeding practices: assist parents in identifying their own preferences and resolving conflictual views. • Reinforce positive steps parents have taken in the renourishment process to support parental empowerment and build confidence through competence.
Maintain an Agnostic Stance
<ul style="list-style-type: none"> • Encourage present-moment focus on nutritional status. • Redirect conversations about cause of the eating disorder toward solution-focused discussion.

Figure 1. Principles of family-based treatment and related goals for the registered dietitian nutritionist.¹

therapist, including details about the family food environment before and after AN, the family's dietary history, and patient's current eating practices. Guiding the family back to previously secure and appropriate developmental eating behaviors is critical.

PHASE 1 OF FBT: ROLE OF RDN

Throughout phase 1 of FBT, with a focus on parental management of refeeding, RDNs offer a foundation of knowledge that can be leveraged to enhance parental empowerment toward interrupting eating disorder behaviors. Nutrition intervention typically includes education, counseling, and prescription.^{24,25} For the

purposes of this paper, food or eating prescriptions/plans will be referred to as "nutrition supports." Determining an appropriate level of nutrition support requires an understanding of challenges and successes associated with past attempts at modifying nutrition, current nutritional needs, and changing needs at key transitional stages in recovery. As the family proceeds through phase 1 and 2, the RDN can suggest adjustments or strategies to meet evolving nutritional needs. These key transitions may include achievement of weight restoration; changes in physical activity restrictions; and special occasions, such as holiday celebrations and birthdays, trips/vacations, and school graduation. For example, RDNs may provide insight

into decisions around meal supervision upon transition back to school. Finally, and ideally, all levels of nutrition support should account for family preferences, schedule, food culture, and accessibility.

Nutrition Support during Treatment

A variety of eating/meal plans have been proposed for practice, from intuitive eating to dietary exchange lists for the various levels of care, ranging from residential treatment facilities to outpatient clinics.^{23,26-29} To date, no studies have been found to validate each approach alongside one another. Reconciling these various approaches

Nutrition Support	Grocery List	Plate Model	Herrin's RO3s ^a	Sample Meal Plans	Dietary Exchanges	Calorie Counting	Meal/Snack Experientials	Restaurant/Cafe Outing	Normal, Proactive	Mindful	Intuitive
Nutrition support best used during FBT^b Phase 1, 2, or 3	1: Parent-directed		1: Parent-directed based on risk or need			Not ideal choice	2: Family-directed		3: Adolescent-directed (also used with parents that have low risk or need)		
Parent Feeding and RDN^c guidance based on Support Risk	Medium Support Risk: If parents are unsure (lacking in self-confidence/importance) in feeding appropriate frequency, amount, and types of foods, RDN may initiate parents on one of the following		High Support Risk: RDN determines whether higher level of nutrition support is necessary or helps transition parents toward lower levels based on eating disorder care experience. For example, the plate model would be lower than calorie counting because it offers more options, freedom, and flexibility, and less specificity, control, and rigidity.				Medium Support Risk: If parents are unsure (lacking in self-confidence/importance) in feeding appropriate frequency, amount, and types of foods, RDN may coach parents on scenarios involving meal/snacks and eating outside of the home		Low Support Risk: Parent intuition: Parents have 9 or 10 out of 10 level of confidence and perceived importance, knowledge/skills, and confidence regarding feeding appropriate frequency, amount, and type of foods		
Prescriptiveness	5	6	7	8	9	10 (most)	4	3	2	1	0 (least)
Contraindications	Eating disorders can take advantage of vague nutrition plans		Eating disorders can take advantage of vague nutrition plans	OCD, ^d anxiety; can be used by eating disorder to disempower parents			Lacking hunger/fullness cues, not at ±5% of goal weight, actively wants to lose weight		Lacking hunger/fullness cues, not at ±5% of goal weight, actively wants to lose weight		
Strengths	Reintroduces feared foods; brainstorms new ideas for family	Offers meal guidance on food balance, variety, and portion sizes	Incorporates 'fun' foods; easy to understand; rule-based	Provides examples of food variety, portion size, and frequency	Introduces portion sizes, variety, and balance of food groups	Feels safe and tangible	Challenges food fears/rules		Eat when hungry; can decide when full and eat more or stop	Balances inner and outer wisdom; pays attention to hunger, fullness, and satiety	No rules
Risks	Limits to eating at home and separate foods; challenging transition toward mixed/cultural foods; may be cost-/time-prohibitive		Rule based	Rigid; may not respect home food environment/culture	May save exchanges for later in the day; learn new counting/restrictive language	May save calories for later in the day; does not pay attention to nutrients and balance	Increased anxiety if introduced, not specific enough, some patients do not have access to hunger/fullness cues		Increased anxiety if introduced, not specific enough, some patients do not have access to hunger/fullness cues		

Figure 2. Levels of nutrition support. At the initial nutrition assessment and/or subsequent re-assessments, the RDN first determines “Nutrition Support Risk” and then initiates or adjusts nutrition support of family-based therapy from left to right. At phase 1, the RDN should default to medium risk. If there is high risk, the RDN may utilize increasingly specific supports, such as sample meal or exchange plans. If there is low risk, the RDN can advance to supports typically utilized in phase 3. At each phase of FBT for adolescent anorexia nervosa, an RDN may revisit supports used in previous treatment, but the ultimate goal is to guide family toward intuitive eating. ^aRO3s=Rule of Threes. ^bFBT=family-based therapy. ^cRDN=registered dietitian nutritionist. ^dOCD=obsessive-compulsive disorder.

in the provision of nutritional support is especially important, as each has the potential to promote parental empowerment. For example, at one extreme, calorie counting lends itself to less flexibility, but the most control, specificity, and rigidity for AN, making it a controversial choice for families. At the other extreme, intuitive eating and parent-driven meal planning are typically the least prescriptive and offer the most freedom, flexibility, or options.^{29,30} Based on our experience delivering FBT and its key tenets, we ranked these approaches on a scale from 0 to 10, least to most prescriptive, to emphasize the degree to which these approaches might support FBT. This emphasizes that rather than being superior or inferior to one another, nutrition supports fall along a spectrum and its utility is dependent on context. The purpose of Figure 2 is to outline the various documented nutritional supports and organize them according to the three stages of FBT. To that effect, we have also summarized our assessment of strengths, risks, and contraindications of each (Figure 2) to set the stage for a novel concept, “Nutrition Support Risk” (Figure 3).

“Nutrition Support Risk” is our rapprochement of nutrition support with parental empowerment. Well-warranted concerns of family-based therapists about a nutrition plan may be that it can be used by the eating disorder against caregivers/parents or that it may stifle transition toward normal eating. Yet, encouragement without directiveness can also frustrate parents. We propose that supporting parents’ nutrition content knowledge, while accounting for skill acquisition, creates an opportunity for categorizing three types of support risk: low, medium, and high (Figure 3). Therapeutic skills, such as directiveness, emotional intelligence, consistency, compassion, and care, have been discussed by others in the literature.³² An example skill that RDNs can provide alongside nutrition education is being able to view nutrition as context over content.

Nutrition as Context over Content

The path toward “normal” eating may be difficult to recognize by a family affected by AN. Over time, parents may

have developed a reflexive habit of negotiation, which is often exacerbated by the patient’s restrictive food “preferences” and “healthy eating” rules. Further, parental beliefs about nutrition may impact their ability to discern between nutrition-related factors maintaining AN and those linked to recovery. Assisting parents in making this distinction is an important area for the RDN to intervene. Factors maintaining AN can include the variety and energy density of food available in the home environment, family eating schedule, division of responsibility in feeding, or family food biases (rules or fears). In addition, during renourishment, it is not uncommon for parents to worry their approach may provide too much or too little nourishment. This can be further complicated by mealtime negotiations; unfamiliarity with meal serving/planning; confusion around a malnourished patient’s needs vs the family’s needs; and complexity of meal/snack timing within family schedules. Furthermore, families may present with fear that their efforts to renourish their child may result in excessive weight gain or create a more negative relationship with food, reflecting common anxieties of individuals with eating disorders. This can result in family avoidance of specific food groups, serving inadequate portion sizes, or allowing the affected child to be involved in food preparation. RDNs can reinforce caregivers’ efforts by providing education about the potential risks associated with accommodating the eating disorders and strengthen parental confidence in making necessary nutritional changes. The goal here would be to help parents accept that, at its core, AN is irrational and negotiation is counterproductive. RDNs may assist families in understanding that eating disorders, AN in particular, are often ego-syntonic, leaving an individual subject to denial and minimization, thereby presenting a significant barrier to healthy decision-making.

In addition, RDNs support parents’ ability to differentiate restrictive preferences from the client’s original food preferences. An example of an eating disorder preference would be veganism starting after the onset of AN, whereas a client’s original food preference might have been a longstanding dislike of tomatoes. Families are

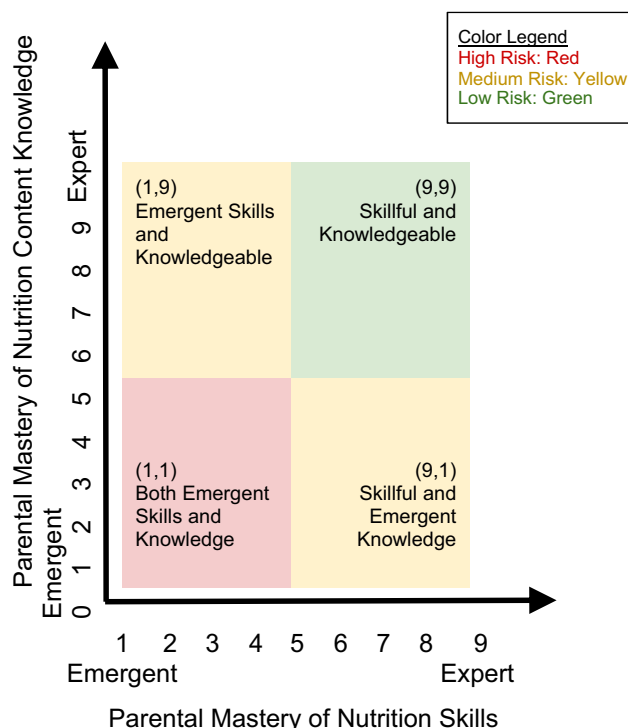


Figure 3. Theoretical framework: nutrition support risk types for the nutrition support of parents. Color legend: high risk (red): (1,1); medium risk (yellow): (1,9),(9,1); low risk (9,9).

bombarded with the same healthy eating guidelines and recommendations as their child, which can limit their ability to act effectively. Successful parents are able to distinguish between “healthy in the eating disorder context” and healthy in other contexts. For example, if a family is aware of the gluten and carbohydrate phenomena contributing to their child’s food fears, then the RDN can provide education on the benefits of carbohydrates. In addition, families might need help differentiating between the nutritional needs of an adolescent in recovery and those of an already healthily developed adult. By providing these types of developmentally informed directives, RDNs can provide context, in addition to content, regarding the nutritional needs of developing children and adolescents.

Helping parents engage with renourishment efforts in a way that encourages experimentation as well as consistency in approach is vital to supporting the FBT aim of empowering families to set about with their own unique renourishment approach. Reminding families that “food is your child’s medicine” can help reorient family members to the importance of consistent nutrition as a means of recovery.

Enhancing Parental Alignment in Feeding Practices: Shopping, Preparing, Serving, and Ending Meals

A key component of FBT rests on parental alignment in addressing disordered eating behavior. Alignment encourages parents to share common goals and values in working toward weight restoration. Parental alignment may be impacted by several factors, including parental conflict in areas other than those pertaining to their child’s health and welfare. In addition, feeding and eating behaviors are early independence skills, and re-establishing a pattern of feeding and observation over mealtimes that have likely not been in place since very early childhood creates significant systemic demands on families. Understanding areas of parental divide, for example, one parent worrying about their child’s distress while another is focused on dietary intake, is important as the RDN seeks to increase a sense of shared

parental power and effectiveness. RDNs can highlight the impact of divided parental focus, encourage parents to work together to solve the problem of food shopping and preparation, and aid in identifying discrepancies in parent beliefs and behaviors as they relate to renourishment. RDNs can reinforce the importance of alignment in feeding concerns, troubleshoot areas of difference between parents, and impart dietary knowledge as a means of resolving challenges. This is particularly important, as the demands of feeding cannot be underestimated; parents frequently report obstacles in providing consistent meals, troubleshooting the need for almost continuous meal preparation, and understanding the difference between feeding enough to support recovery and what might be considered “normal” eating for their child. Some parents may need assistance in streamlining food preparation to meet the needs of diverse family members, particularly when parents do not want to eat the high-calorie-dense meals necessary for their child’s recovery. Finally, if meals are not completed, RDNs can assist families in understanding how to adjust subsequent meals or use liquid nutritional supplementation to account for nutritional shortfalls that may have occurred.

Monitoring Weight Progress

Weight progress in historical treatments for AN was shared on a need-to-know basis; typically among team members, rarely with patients. FBT shifts this by sharing body weight information with the family starting with phase I of FBT. Exposure to weight-related information is deemed critical for several reasons: first, with parents in control, it can help ease concerns about the rate of weight gain. Second, sharing weight targets allows patients to grapple with the cognitive and emotional challenges of weight restoration. It is our experience that most patients overestimate weight gain and the cognitive dissonance created by the regular feedback of weight progress and dietary intake are important for cognitive change. Finally, activating weight and shape concerns in session allows the RDN and other members of the treatment team to work with “AN in the room” to better understand and

address the challenges specific to renourishment in the family.

While weight monitoring provides an objective measurement of “is the patient eating enough?” RDNs can also provide specific feedback through an assessment of how current food practices affect the patient’s weight progress and symptom improvement/reduction. Many opportunities exist in this regard, such as helping parents understand adolescent/individual specific needs of weight progress and the fundamentals of energy balance. For example, helping families see that nutrition may not be resulting in weight gain but is stabilizing vital signs, or that the amount of nutrition leading to weight gain under sedentary conditions will likely lead to weight maintenance under conditions of more normative activity levels, are important areas of knowledge transmission.

Although FBT certainly has an emphasis on weight as a relatively easily tracked outcome variable, RDNs and other treatment team members can uniformly emphasize the importance of weight as one of a number of important variables (eg, vital sign stability, hormone regulation resulting from renourishment efforts) that provide an overall health-related report card.³³ If weight gain is occurring in the absence of vital sign stability, RDNs can review meal planning to determine whether increasing specific types of food (eg, variety and distribution of macronutrients, food groups, and food preparations) or adapting physical activity may be necessary, or if other conditions, such as hiding weights on the body during weigh-ins or water loading, may need to be addressed. Guiding family efforts to increase specific aspects of nutrition and providing feedback on the meal structure are also important roles of RDNs throughout phases 1 and 2.

PHASES 2 AND 3 OF FBT: ROLE OF RDN IN MANAGING TRANSITIONS

During phase 2, the emphasis in FBT is handing back developmentally appropriate independence to the adolescent as deemed appropriate by the family and treatment team. Phase 3 is focused on assisting the adolescent in developing skills to manage normal adolescent challenges and to prevent relapse.

Adolescents are presumed to be ready to transition to phase 2 when their weight is roughly 90% of the target weight, they can eat with relatively little struggle (though they may still have some areas of resistance/feared foods). As families transition to phase 2, it is important to emphasize that parents may resume control over different aspects of intake if the adolescent struggles with increased responsibility. Phase 2 skills are built in a stepwise manner determined through careful assessment of adolescent readiness to tackle different eating-related challenges.³⁴⁻³⁶ Skills developed during this time include selecting appropriate snacks, trying feared foods, eating some independent meals (typically school lunches), and resumption of more traditional levels of activity for the adolescent, such as attending school and extracurricular activities. At this stage, if weight is not increasing to the established healthy range, the treatment team will assist the family in evaluating and modifying the level of supervision/responsibility conferred to the adolescent. Consideration is given to the potential emergence or continuation of behaviors, such as purging, secretive exercise/fidgeting, or throwing away/spitting out food, in addition to the need to practice new skills with greater parental support.

As this transition occurs, the RDN can assist in recommending eating plan changes for additional levels of physical activity and will review the frequency, duration, and intensity of activity. The RDN, in consultation with the team (parents, therapist, and pediatrician), may also include the adolescent in discussions circumscribed to the specific skillsets they are building in phase 2, such as normalizing the social aspect of eating (Figure 2). At this stage in treatment, RDNs and the FBT therapist will benefit from continued consultation to determine adolescent readiness to begin to engage in nutrition counseling. Factors that may affect an adolescent's participation in nutrition counseling include their level of motivation for change, cognitive flexibility, and developmental expectations and limitations that may impact phase 2 goals. For example, an adolescent might be invited to join nutritional counseling sessions to engage in brainstorming

with parents and the RDN about the types of snacks that are likely to support increased participation in sports, without risk of creating an energy deficit.

The RDN's role during phase 3 of FBT is largely confined to supporting any changes the patient or family may identify, such as adding in or increasing sports or assistance in meal planning at college or summer camps. These not only help with flexibility, but also prevent relapse. The criteria for progressing to stage 3 are when patient achieves a "state of health" when they are within goal-weight range, reach normal menses/hormone levels, have normal cognitions around food/exercise, and demonstrate flexible eating style and variety.¹ The RDN can assist in relapse prevention, which is a goal of phase 3, by helping to manage transitions.

For example, specific developmental challenges of adolescent nutrition include working with shifting academic schedules, which may not provide ideal timing and spacing for meals (eg, shortened amount of time to eat lunch). Further, adolescents are in a period of rapid growth and renourishment efforts may have to target the need to increase linear height or may need to wax and wane, depending on athletic demands during certain seasons of the year. Importantly, meeting these nutritional demands may require ongoing and high-level caloric intake, creating demands on the family, and offering less flexibility in meal times and content. RDNs can help families problem-solve issues of caloric density, portion sizes, variety, and timing of meals to satisfy high energy needs.

First and foremost is developing sufficient flexibility and skills for "being open" to dietary changes, which allows for adaptation to new environments and demands on adolescents. As adolescents develop, nutrition counseling can expand beyond family meal planning toward support around adolescent-directed grocery shopping, meal planning, and meal preparation, depending on patient age and circumstances. Certainly among older adolescents, food management and preparation (ie, dietary hygiene) are critical skills for ensuring appropriate development over the lifespan and preventing eating disorder relapse. In

addition, social eating and planning for eating in settings that require flexibility given limited choice can present challenges. For example, in college, many students transition their sleep schedules such that they no longer follow traditional meal times and can benefit from thinking flexibly and adaptively about how to meet nutritional needs on a phase-shifted sleep schedule. Other examples of transitions include school graduation, moving to a new home, "eating on the job" challenges, and eating with significant others. Several skills are necessary for successful transitions to independent eating. Being able to identify and respond to hunger cues, preparing individual as well as group meals, and braving cafeteria foods are all learned skills. For some adolescents, focus on intuitive eating skills may be beneficial, provided they can demonstrate sufficient flexibility and commitment to appropriate nutritional intake, while others may benefit from continuing to eat on a more rigid schedule to insure that they are achieving appropriate targets for caloric intake.^{28,37} Maintaining these changes after resolution of AN is the focus of therapeutic efforts in FBT, where independence in the realm of food and eating are expanded to encompass independence for general tasks of adolescence.

Adolescents with AN can and do make a full recovery, both physical and cognitive. Flexibility is a concept emphasized throughout, as the ability to adjust intake/exercise is key to maintaining a healthy diet over a lifetime. Termination is a natural outgrowth of any treatment protocol and should be considered when few nutritional concerns are raised, there is a consistent pattern of appropriate self-care in the face of changing developmental concerns, and when the family and treatment team identify limited treatment goals. To date, there are no standardized recommendations for RDN eating disorder follow-up or termination protocols for outpatient care.

SUMMARY

This article proposes a framework for the integration of nutrition services within the context of FBT for adolescent restrictive eating disorders. Treatment studies have not utilized RDNs and, as

such, these guiding principles are theory-driven and based on clinical practice. As roles are clarified on the FBT team, the RDN, therapist, and physician/nurse practitioner would have to coordinate responsibilities to meet standards for optimal care. The increasing dissemination of family-based models for eating disorders indicates that ongoing scientific evaluation of practice parameters and mechanisms of change is a necessary next step to elucidate the role of RDNs in this treatment service and delivery.

FUTURE CONSIDERATIONS

Evaluation of the impact of additional RDN support on parental empowerment and knowledge are two important areas for continued exploration. Parental self-efficacy has been explored as a mechanism of change in FBT through examination of the degree to which parents feel competent and capable of managing their child's eating concerns. There is preliminary data suggesting that enhanced parental self-efficacy promotes subsequent improvement in weight.²² Evaluation of nutrition counseling on parent nutritional knowledge and related self-efficacy as a potential change agent would be a natural next step. We predict that many families may experience a greater sense of empowerment through work with RDNs, which may in turn lead to improvements in early weight gain and overall outcomes.

In addition to understanding the parameters of the RDN role in FBT, there are significant structural and systemic issues that would need to be addressed for implementation of RDN-based FBT efforts. Specifically, future development should also evaluate billing structure and funding for RDN services.³⁸ While we are fortunate to have joint medical and RDN visits, along with access to FBT, this is not the case in other parts of the world. To this end, the development of uniform data markers and evaluation tools to support the integration of nutrition therapy is necessary. Standardizing expected nutrition outcomes for patients across ages, illness severity levels, and settings remain primary goals. Subsequently, standardizing the frequency, duration, and intensity of nutrition care is important for ensuring replicable outcomes. Further elucidation of RDN guidelines will help to

narrow the research–practice gap, thus supporting our understanding of the role of RDNs in youth and family ED treatments.

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