Introduction
Over the last several decades, the strong pediatric focus in autism studies has created a better understanding of childhood psychopathology and the neurobiological causes of this condition. This intense interest in children with autism has, however, at the expense of the adult cohort, the largest group on the spectrum. Though “neglected” for decades in both research and practice, it has begun to be acknowledged that individuals with autism spectrum disorder (ASD) will spend most of their lives as adults and these years merit both attention and resources. This analysis will provide a brief overview of the health-related status of adults with ASD and the most striking nutritional patterns. As a means of contributing to the emerging interest in the adult cohort, this article will position the development of cooking skills as a therapeutic method of enhancing nutritional status and contributing to an increased quality of life through greater independence. Subsequently, Active Engagement, an innovative hands-on approach for the development of cooking skills on the autism spectrum, will be introduced. An examination of how this teaching framework can be effectively implemented will be demonstrated via a description of a snacking program designed for this population.

Nutrition-Related Trends for Adults with Autism
Adults with autism are not well represented in the large national surveys, one of the most important sources of epidemiological information. However, a recent large study in northern California of Kaiser Permanente medical records sheds some light on this population. Assessing the period between 2008–2012, the treatment of 1,507 adults with ASD (ranging in age from 18 to 65+) were analyzed against a matched neurotypical control group. The researchers concluded: “Nearly all major chronic medical conditions were significantly more common in adults with ASD than controls.” Further, rates of obesity were elevated in the

Learning Objectives:
1. After reading the article, the nutrition professional will be able to identify at least three health concerns commonly seen in adults with autism.
2. After reading the article, the nutrition professional will be able to explain the four motivational elements of Active Engagement.
3. After reading the article, the nutrition professional will be able to describe The Snack Zone program and identify two factors driving program development.

1. The diagnostic classification of autism has been altered somewhat in the last few years by the creation of a broadly inclusive label termed “Autism Spectrum Disorder” (hereafter ASD) that incorporates several previously determined autism subtypes. A diagnosis of ASD is based on deficits in social communication and interaction as well as restricted and repetitive behavior patterns.
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**Submissions:** Articles about successful programs, research, interventions and treatments, meeting announcements and educational program information are welcome and should be forwarded to the editor by the next deadline.

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**From the Chair**

Janice Scott, MS, RDN, CSP, LD

By the time you receive this, our national Academy leaders will have been elected. All the DPG elected positions will have been selected for 2018-2019. The excitement of a new year to come has begun with the energy and enthusiasm of new ideas and plans. Congratulations to our new governing boards!

But leadership shouldn’t stop there. Each of us has something to contribute to the benefit of our practice group. Perhaps it’s as easy as sharing an article of interest on the BHN forum or something with a bigger impact such as serving in an appointed position on the executive board. I will guarantee you will receive as much back as you give. Our incoming chair, Megan Kniskern, is actively looking to fill a number of positions on her board. A few positions are available right now, such as associate newsletter editor, event co-chair, social media chair and sponsorship chair. Taking on these positions at this mid-point will just whet your appetite for greater involvement.

Please take a moment to send me an email at [chair@bhndpg.org](mailto:chair@bhndpg.org) to submit your name or just ask some questions. Sara Blakely, the founder of Spanx was quoted as saying: “Don’t be intimidated by what you don’t know. That can be your greatest strength and ensure that you do things differently from everyone else.”

The inaugural Online Interactive Retreat brought nearly 100 dietitians together to expand our knowledge of key issues that concern our patients and clients today. Were you there? These amazing speakers outlined nutritional strategies backed by scientific research as well as counseling approaches with real-life case studies to demonstrate new practice methodologies. Collaborating with dietitians across the country reinvigorated all of us. Our hosts, Adrien Paczosa and Megan Kniskern managed it all with humor, grace and amazing skill. Did you miss it? Watch the website for the opportunity to obtain individual sessions.

In addition to that amazing program, BHN members are hard at work influencing and informing the state of behavioral healthcare across the country. Registered dietitians working in mental health and addictions are currently revising a manual for nutrition in psychiatric care, while other dietitians have begun a collaborative effort with the Pediatric Nutrition Practice Group to revise and update the Academy of Nutrition and Dietetics Pocket Guide to Children with Special Health Care and Nutritional Needs.

Come join us as we set our mark toward the Second Century of great things. I have a small poster in my office with a quote that keeps me motivated. Perhaps it will inspire you also.

“Twenty years from now you will be more disappointed by the things you didn’t do than by the ones you did do. So throw off the bowlines. Sail away from the safe harbor. Catch the trade winds in your sails. Explore. Dream. Discover.”

subjects with autism (33.9% vs 27.0% for the control). Some of the most substantial differences between subjects and controls were manifested in autoimmune conditions (13.9% among ASD vs 10.8% among controls), GI disorders (34.7% vs 27.5%), sleep disorders (17.6% vs 9.6%), and seizures (11.9% vs 0.73%). Dyslipidemia was found at 22.8% in the ASD cohort (15.1% control), while diabetes was seen in 7.6% (against the control group at 4.3%). In some of the most striking conclusions related to comorbid psychiatric conditions, adults with autism were found to suffer depression at 2.9 times the rate of the control group and schizophrenia at 22 times the norm.

Other smaller secondary studies assessing the overlapping categories of developmental disabilities (DD), intellectual disabilities (ID), and ASD have previously reinforced the understanding that there are strong trends towards obesity in this population. Further, obesity among adults with autism and ID/DD is correlated to a number of factors including gender, with females having higher rates than males and level of disability; medication use; and physical inactivity or sedentary lifestyle. Living more independently within the community is also associated with greater obesity.

One of the most significant impediments to understanding the nutritional status of adults with autism is diagnostic overshadowing, or the underdiagnosis of comorbid conditions for those with disabilities. De Winter et al. analyzed risk factors for CVD (hypertension, diabetes, hypercholesterolemia and metabolic syndrome) via the Healthy Ageing in Intellectual Disability study (n = 980), a large public health initiative in the Netherlands. The goal of this cross-sectional study was to compare rates with the general population, controlling for age, to determine how many conditions went undiagnosed. The authors concluded that as many as 45–50% of CVD risk factor cases had not been previously diagnosed. For example, 45% of individuals had undetected Type 2 diabetes (twice the rate as in the general population) and, even more alarming, 95% of metabolic syndrome cases had not previously been identified. The study did not find, however, that actual prevalence rates were higher than those documented in the general public. Broadly noted in autism studies, it is unclear whether underdiagnosis is the result of poor quality of healthcare, under-utilization of services, or communication deficits of individuals with autism in healthcare contexts.

Another significant nutrition-related factor for individuals with autism is the high rate of eating disorders (ED), likely fed by atypical sensory processing. Disordered eating has primarily been studied in children with ASD, where prevalence has been estimated as high as 90%. Issues reported are varied but include limited dietary variety, refusal to eat, compulsive eating, disruptive mealtime behaviors, strong sensory preferences, as well as pica, psychogenic vomiting, and rumination.

The status of ED during the adult years is much murkier. A recent review of adult outcomes for ASD found that ED were reported in the range of 6-17%. In a survey from Norway of adults with IDD living in the community, 27% manifested some form of eating pathology with Binge Eating Disorder documented at the highest prevalence. The relative lack of data on this topic is unfortunate given that food and mealtime behaviors are a significant contributor to challenging behaviors for this population, merit- ing disproportionate amounts of staff support and resources. There is also currently no consensus as to how to define, assess, diagnose or treat eating disorders for ASD/DD.

Nutrition professionals must also be aware that polypharmacy is pronounced for adults with ASD. It is not uncommon for these individuals to receive combinations of psychotropic, non-psychotropic, antipsychotic, mood-stabilizing, as well as antidepressant medications, though little is known regarding the physiological consequences of these drug combinations. Recently, concerns have been raised about the association of atypical antipsychotics with the development of metabolic pathologies; likewise, osteoporosis appears to be intensified by the combination of a sedentary lifestyle and some of the more commonly utilized medications on the spectrum.

The field of autism studies has expanded in the last several decades well beyond the domain of developmental psychology as it is now considered a multi-organ disorder. What does nutrition and dietetics have to offer to this emerging discipline? Given the high rates of overweight/obesity and comorbid conditions, as well as wide-ranging eating disorders, professionals working within the realm of consumption are uniquely situated to contribute to this population. Specifically, supporting these individuals in the development of cooking fundamentals is vital for ensuring the highest quality of life. Likewise, cooking competency can be viewed therapeutically as a tool to mitigate dietary inadequacies.

Cooking and Health

The popular media has taken to emphasizing cooking skills as a bridge to healthier eating patterns and nutrition professionals have begun to respond with research on the efficacy of this approach, particularly as a means to enhance fruit and vegetable consumption. Advancement of basic cooking competencies has been suggested for all age groups as a vital life skill and established as an essential component of most extension and SNAP-Ed programs. The Academy of Nutrition and Dietetics has also recognized the value of developing cooking competencies by calling for hands-on culinary programs in the treatment and prevention of childhood obesity. Cooking programs with clinical goals have been implemented into numerous contexts including the training of medical students, assisting individuals with Type 2 Diabetes Mellitus improve dietary quality, supporting pregnant teenagers, promoting fruit and vegetable consumption for children, and engaging individuals with severe mental illness.

Cooking activities are included in most community programs for adults with ASD, though typically as an activity
“The Snack Zone”...
continued from page 3

to promote vocational, leisure, or social integration goals. These types of programs do not necessarily promote hands-on learning as most are taught in a group format where individuals have only a small role in the larger production. Such approaches do not encourage authentic skill building, though they are important for socialization and stimulation. Some interest has also focused on cooking as a component of life skills programs for those with ASD, though such approaches have typically addressed specific and discrete tasks rather than pragmatic or generalizable cooking skills. Programs have promoted packing a lunch,51 making a sandwich,52 preparing a snack,53 and various meal planning activities.54,55

Active Engagement: Introduction

There are many ways to learn cooking skills, though most people learn fundamentals at home through family traditions and culturally transferred recipes. Other predominant means of cooking skill acquisition for the general public include self-instruction, mass media presentations, formal training, and trial-and-error.43 It is easy to see how these types of knowledge transfer would preclude most individuals with cognitive or communicative impairments.

Teaching cooking to those with ASD is complicated by the fact that cooking is not one discrete skill, but a complex set of competencies that interact. It is a learned process that incorporates physical actions (both gross and fine motor) with social engagement, reliance on memory, cognitive processing and executive functioning, as well as participation in the larger cultural context. Because of these intersecting domains, cooking can be seen as a form of “active engagement,”56 which forms the substance and title of an innovative new framework for teaching cooking skills to adults with autism.58 It has evolved into an elaborated program that supports food preparation skills in a wide variety of contexts. Active Engagement was first introduced to the dietetics community in 2016 in the Journal of the Academy of Nutrition and Dietetics.57

Unlike programs utilized in education or psychology, Active Engagement is not a manualized program to be implemented in a specific sequential manner. Instead, it offers a theoretical approach that allows for instruction in varied settings via pragmatic, authentic cooking projects which can be generalized. Further, Active Engagement is intended to work with the wide range of abilities that defines ASD, rather than focusing exclusively on the highest functioning cohort as is often the case.59

The conceptual framework for Active Engagement is based upon a model used for the instruction of life skills.60 [See Figure 1] Here, the three basic psychological needs of autonomy, self-efficacy (competence), and relatedness are combined with a fourth component – preference – that is highly applicable for use in food-related projects. When these four basic ‘motivational climates’ are established, the learning environment is optimal for those with autism and other developmental disabilities.

Cooking is often typcast as an activity undertaken at a stove involving the stirring of a pot. The reality is that, in any given day, this stereotype likely accounts for a fraction of our caloric intake. Since the standard image of “cooking” is far too narrow, using the terminology “food preparation” might be more appropriate in some contexts. Herein, the terms “cooking” and “food preparation” are used interchangeably to imply the general preparation of food for consumption. Using this simplified definition allows Active Engagement to work within a range from the simplest snack (cheese on crackers) to the most elaborate feast (multi-course Christmas dinner). While the general principles of teaching skills will not vary over this range, the level of detail will.

As Active Engagement is intended to provide a supported environment for learning, based upon exploration and choice, it is consistent with the movement in dietetics towards “hands-on nutrition education” (HONE). HONE-based practices emerged in nutrition out of the growing understanding that the majority of outpatient care for nutrition professionals is based on helping clients self-manage their chronic illnesses.51 Consequently, HONE-related activities are aimed at increasing both compliance and
adherence by demystifying nutrition-directed targets.61 While many HONE programs stress education, the overall ethos of “first-hand observation and actual hands-on completion of tasks”61 puts more emphasis on the doing than “knowing”.

Teaching cooking skills to those with autism does not begin when the individual sits down for instruction. In fact, when adapting instruction for this population the most important aspects occur before addressing the recipe’s first step, and many of the planning decisions are based on maximizing opportunities for choice and individualization, rather than menu specifics.

All the questions that need to be asked – and answered – about making accommodations (in activities, tools or materials) need to occur at the individual rather than the group level so that each participant can pursue distinct goals. This should not, however, be taken to mean that group instruction is precluded or that only one-on-one instruction is appropriate. Such is not the case and there are many different contexts in which Active Engagement can be implemented as a group-oriented activity. “The Snack Zone,” a snacking program for individuals with autism, provides an appropriate example of how to effectively implement Active Engagement’s emphasis on autonomy, self-efficacy, relatedness and preference within a group setting.

**The Snack Zone**

At present, there is no formal definition of what constitutes a snack or snacking behavior. A wholly pragmatic view considers snacking to be “eating foods or consuming caloric beverages between regular meals.”62 A widely-cited survey of eating behaviors found that snacks now account for almost 50% of American food consumption and thus the most widely prevalent eating behavior in the United States.63 This emerging “snackified” eating culture creates gray areas in terms of understanding consumption patterns as snacks appear to have less of the cultural underpinnings of meals with far more individual and idiosyncratic influences.

“The Snack Zone” (TSZ) is a community-based snacking program designed for individuals with ASD, though the principles are applicable to other populations. Visits to TSZ are based on the premise that menu options will guide hungry participants to assemble an appropriate high quality fruit or vegetable snack. Over time, the ideas and skills supported in the program can be generalized outside of the program to reinforce healthier eating patterns.

TSZ was initiated at Community Support Services, Inc. (CSS)2 in September of 2016 and has since been ongoing. Approximately 200 individuals visit TSZ in a given week and all members of the CSS community are welcome to participate. Many participants will stop in for a quick, impromptu snack but the majority are scheduled in for a 30-minute visit during the work week.

TSZ is built on a formula that stipulates unlimited nutrient dense foods accompanied by one energy dense topping or yogurt per person/per visit (See Figure 2). Total energy consumption in TSZ is targeted at approximately 200 high quality calories per visit. While the menu remains static (apples, oranges, celery, cucumbers, carrots, cherry tomatoes, peanut butter, ranch dressing, cream cheese, and low fat vanilla yogurt), there are occasional seasonal variations (e.g., different types of apples). Further, the menu offers enough options to create a level of variety that is sustainable for both the individual and for logistical purposes.

Choices offered are positioned in a glass-front refrigerator with apples and oranges displayed in bowls next to the refrigerator. A menu board provides a visual display of available items (see Figure 2). Small cutting boards, adapted knives, wide handle spreaders, as well as paper plates and napkins are readily available for use and self-service is encouraged.

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**Table 1: Nutrient Dense Options: Per serving calories**

<table>
<thead>
<tr>
<th></th>
<th>Apple</th>
<th>Oranges</th>
<th>Carrots</th>
<th>Celery</th>
<th>Cherry Tomatoes</th>
<th>Cucumber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories/Serving</td>
<td>60</td>
<td>50</td>
<td>35</td>
<td>20</td>
<td>25</td>
<td>25</td>
</tr>
</tbody>
</table>

**Table 2: Energy Dense Options: Per serving calories**

<table>
<thead>
<tr>
<th></th>
<th>Cream Cheese</th>
<th>Peanut Butter</th>
<th>Ranch Dressing</th>
<th>Low Fat Yogurt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories/Serving</td>
<td>55</td>
<td>140</td>
<td>103</td>
<td>70</td>
</tr>
</tbody>
</table>

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2. Based in Gaithersburg, MD, CSS is a large provider of therapeutic, residential, educational, vocational, and respite services for adolescents and adults with ASD and ID.
“The Snack Zone”...
continued from page 5

To avoid unnecessary waste, all vegetables (carrots, cherry tomatoes, cut celery and sliced cucumber) are prewashed and bagged into individual servings; the calorie totals for serving sizes are listed in Table 1. Though pre-packaged, participants are allowed as many bags of vegetables or whole fruit as they would like. All energy dense items are purchased in prepackaged individual servings. This limits portion size (see calories per serving in Table 2), and simultaneously addresses food safety concerns. With the TSZ formula emphasizing fruits and vegetables, and the limitations on toppings, keeping to the goal of approximately 200 calories per TSZ visit is relatively easy to accomplish.

Aside from snacking options, TSZ offers a range of cooking magazines and picture cookbooks for recreational reading. Alongside these materials, there are art projects (usually water color painting and coloring) on the main table as well as simple sensory-based activities. Having non-eating activities available is an important component of the program as it attempts to distract individuals from consuming out of boredom, rather than hunger.

There is no single technique for teaching individuals with ASD in any setting. How staff draw students with autism into the food preparation process is likewise varied and requires a range of adjustments. Some participants will be hypersensitive to sensory intake while others are easily overstimulated by any sensory information. Determining how to proceed should be driven by a commitment to emphasizing choice as much as possible and creating ample opportunity for the individual to participate, using whatever adaptive means are necessary.

One aspect of ASD that often takes professionals by surprise is the deficits in motor planning and coordination. Many individuals will have never before peeled an orange. This is not necessarily because they can’t learn to, but because support staff or caregivers have always jumped in to facilitate. Allowing the opportunity to learn, through trial and error, to open things (e.g., individual containers of peanut butter, ranch dressing, cream cheese or yogurt), peel things (e.g., oranges) or spread ingredients is one of the most important food preparation skills that can be taught in the context of TSZ.

At first glance, TSZ appears to be an environment designed simply for eating. However, it takes the consumption of a simple fruit/vegetable snack and turns it into an experiential activity driven by a list of action verbs used to define participation: “choose”, “combine”, “slice”, “peel”, “spread”, “open”, “collate”, “discard”, “clean”, etc. Further, by folding the Active Engagement elements of autonomy, self-efficacy, preference and socialization into the activities, TSZ demonstrates a context outside of the kitchen for supporting the acquisition of food preparation skills for individuals on the spectrum.

Autonomy is manifested in that individuals are continually encouraged to mix and match the choices available with as much independence as possible, trying new combinations (e.g., cucumbers with cream cheese rather than ranch dressing) as well as new options (e.g., celery rather than the usual carrots). Participants are also required to clean up after themselves, though some need guidance from staff to accomplish this.

Individualization and competence can be seen in the organization of the program which encourages individuals to self-serve and prepare their snack (slicing, spreading, peeling) with adapted tools. If they are not hungry, they are trained to find a suitable activity to fill their time. These organizing principles allow TSZ participants to have a highly-customized experience as well as a personalized snack in a social environment.

There are many forces at work to ensure that individuals have a meaningful experience in TSZ and are not limited by food rigidity. Those that refuse fruit or vegetable options usually choose the yogurt. As this option is typically the first to run out, there are plentiful opportunities to encourage reluctant participants to try what their friends are having. This type of opportunistic peer modelling is particularly powerful when they are genuinely hungry. It is also useful to sit with a reluctant client and help them spread peanut butter on celery or open a small cup of ranch dressing for dipping. Often the sheer act of preparing a snack is enough to motivate consumption.

Official taste tests in TSZ also contribute to many individuals moving beyond somewhat rigid snack preferences; for example, on one occasion hummus was offered as an additional dip option with much fanfare. A variety of simple songs are used to reinforce the motor movement necessary to ensure effective use of the adaptive knives. Music has been found to be a powerful teaching tool when working with individuals on the spectrum, though this topic is beyond the scope of this report.64,65 Lastly, posters and stickers promote variety and reward positive behaviors such as trying new snack options (See Figure 3).

This short review discussed TSZ’s efficacy from the perspective of how individuals with significant cognitive and motor impairments can be drawn into the process of food preparation through simple snacks. There are also other compelling perspectives from which to analyze this program. Is fruit and vegetable consumption altered over the progression of the program? Does simple access to nutrient dense foods increase consumption? Part 2 of this article will address these types of questions and discuss how to implement assessment and program evaluation.
About the Author:
Janice Goldschmidt, MS, RD, LDN has worked with individuals with autism for the last decade and has written and presented on her work in a wide range of professional formats. In her capacity as Director of Nutrition Services at Community Support Services, Inc., she is responsible for the development and implementation of a wide range of nutrition-related cooking programs. The American Association on Intellectual and Developmental Disabilities (AAIDD) will publish her first book entitled Active Engagement: Developing Authentic Cooking Skills for Adults with Intellectual and Developmental Disabilities in the Spring of 2018.

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CPE Questions for “The Snack Zone”: Enhancing the Nutritional Status of Adults with Autism Through Active Engagement in Food Preparation Skills

1. All of the following are noted amongst adults with Autism with the exception of:
   a. high rates of eating disorders
   b. high rates of obesity
   c. high rates of physical activity
   d. high rates of polypharmacy

2. Most of the planning decisions in Active Engagement are built around an emphasis on:
   a. choice and individualization
   b. group-oriented projects
   c. measurement, shopping, and clean-up
   d. texture and taste

3. The four “motivational climates” promoted in The Snack Zone are autonomy, self-efficacy, relatedness and
   a. motor planning
   b. preference
   c. self-esteem
   d. sensory exploration

4. Because programs based on Active Engagement are intended to provide a supported environment for learning
cooking skills based upon exploration and experiential activities, they are excellent examples of:
   a. activities of daily living
   b. hands-on nutrition education (HONE)
   c. inappropriate programming
   d. motivational climate

5. The snacking formula used in The Snack Zone is based on:
   a. 1 item only which must have nutritional labeling
   b. all you can eat but must sign in
   c. bring your own snack with no added sugar
   d. unlimited fruits and vegetables, and a limit of one
      energy dense topping or yogurt

CPE credit (1.0 hour) is available from BHN for the full text version of the article, “The Snack Zone”: Enhancing the Nutritional Status of Adults with Autism Through Active Engagement in Food Preparation Skills. Access the article at http://www.bhndpg.org/cpe-articles-quizzes

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Background

Bulimia Nervosa (BN) is characterized by recurrent episodes of binge-eating, often associated with a lack of control over eating, and followed by compensatory behaviors such as self-induced vomiting, laxative/diuretic misuse, and/or exercise, typically to promote weight loss or prevent weight gain.1 Currently there is more published data on the female population, but more men are beginning to seek treatment. Approximately 1.5% of women in the United States suffer from BN in their lifetime.2 It is common for laypeople to assume BN affects only young, affluent Caucasian women, but BN affects males and females across the lifespan. For males, age of onset may be older.3 Presence of an eating disorder (ED) should always be considered regardless of age, gender, and socioeconomic status.4 More training and screening tools in clinical settings are needed.

Typically, BN is characterized by an obsession with food, body weight and shape, as well as extreme eating behaviors such as binging and purging. Registered dietitian nutritionists (RDN) working in treatment settings often observe symptomatic overlap with other eating disorders such as anorexia nervosa (AN) and binge eating disorder (BED).5 While patients with BN can mask their illness due to normal weight presentation, some data suggests that BN can be associated with greater symptom severity and psychological impairment compared to other EDs.6 More than half of women with BN have psychiatric comorbidity.7 Besides mood and anxiety disorders, about 1 in 10 patients with BN have a comorbid substance use disorder (SUD).7 Recent research has aimed to connect bulimic behaviors with alterations of brain function.8 Understanding the complex interactions between neurobiological abnormalities, psychosocial and psychiatric disorders will hopefully help to develop more disorder-specific treatments.8 The purpose of this article is to provide an overview of recent advances made in BN research and to identify areas which require further attention.

Overlap Between Bulimia and Addiction-like Eating

Eating patterns of patients with BN may suggest addiction-like qualities9 and are frequently associated with alcohol use disorders.10 Food Addiction remains controversial, implying that highly processed, highly caloric foods have addictive potential for some individuals, and that some forms of consumption behavior mimic other addictions. In the past, food addiction symptomatology was only described in obese, binge-eaters,11 individuals without EDs who had higher body mass,9 or those engaged in efforts to suppress weight. Recent studies, based on The Yale Food Addiction Scale (YFAS), reveal food addiction diagnoses in all normal-weight BN patients9,12 but less so in remitted BN women,11 despite compensatory weight-control behavior. Lower interoceptive awareness, higher depression, and higher impulsivity are also associated with more YFAS symptoms, which have also been linked to more frequent purging.9 Unfortunately, data describing food addiction in patients with BN do not adequately control for restrained eating (dieting), therefore results should be interpreted with caution. More research linking BN to food addiction is needed.

Comorbidity between BN and Substance Use Disorders

Substance abuse, specifically alcohol, is associated with a worse long-term outcome for women with BN.13 The exact mechanism of association between alcohol use and eating-related urges in patients with BN remain unclear. One study showed consumption of alcohol acutely reduces the urge to binge, possibly by reducing clear-headedness (alertness, attention, concentration, memory or focus).14 After feeling intoxicated, BN patients showed reduced urges to participate in compensatory behaviors. It is not uncommon to see patients with co-occurring ED and SUD oscillate between separate sequential treatment programs, rather than have both issues addressed concurrently.

Crystal methamphetamine hydrochloride, also known as “ICE”, is a type of amphetamine which can be taken orally, smoked, or injected. Its use promotes weight loss. In some BN cases, “ICE” was used as either part of weight loss efforts or associated with occurrence of disordered eating.15 In comparison to meth users without EDs, BN meth users have poorer outcomes, experience frequent hospitalizations and show severe decline in functioning (family and employment).16 In some cases, diuretic and laxative use as a means of purging can create a dependency on prescription drugs to assist in urinating and passing stools.17 Studies on the interaction effects between stimulant drugs and BN are greatly needed.

Genetic link between BN and SUD

Co-occurrence of binge-purge eating disturbances and substance abuse may be due to shared neurobiological processes, especially dopamine activity in the brain.18 Dopamine is a neurotransmitter involved in the reward and emotional aspects of eating and its activity may explain the loss of control over eating, food choice, and self-sustaining binge behaviors seen in BN. Dopamine signaling is dependent on other neurotransmitters and the functioning of dopamine receptors.19 Studies of twins suggest bulimic behaviors and problematic alcohol use may be due to common genetic factors rather than environmental factors, meaning phenotypes do aggregate in families.20 Heritable traits may be contributing factors to the co-occurrence of these disorders. In another study, 83% of the correlation between BN and drug-use disorders was found to be due to genetic factors.21

In a 2016 publication, women with binge eating behaviors (BN or EDNOS) were genotyped and assessed for lifetime presence of alcohol, cannabis, cocaine and stimulant abuse and dependence.22 The implications of genes and receptors within the dopamine system (DRD2 and DRD4 receptors, COMT activity, Taq1A-DRD2

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gene variant) were examined for risk of substance abuse in these women. Findings showed an epistatic interaction between polymorphism expression (DRD4 and COMT) within the dopamine system, and possibility of comorbid substance abuse in women with binge-eating symptoms.22 SUD and binge-purge behavior are both conceptualized as having dopamine-linked tendencies, however binge-eating behaviors are not attributable to the same dopamine-relevant genetic factors that act in substance abuse. Environmental factors such as caloric restriction and body-image concerns may also contribute to bingeing behavior. Risk factors (e.g. poverty, depression, and loneliness) that incline people towards substance abuse are not similar to the factors that lead people towards binge-eating and purging.22

Impulsivity and Neurochemistry of BN
Frequency of bingeing/purging is an important indicator of therapeutic outcomes.24 Inhibitory control describes the ability to suppress inappropriate and unwanted actions. There is an impaired response inhibition in BN patients which is not limited to binge eating, but frequently includes numerous impulsive behaviors (e.g. alcohol and substance abuse). This could be due to reduced frontostriatal brain activation,25 which mediates the motor, cognitive and behavioral functions within the brain. Impulsivity is conceptualized as a common thread in BN and borderline personality disorder (BPD). BPD patients with co-occurring BN appear highly vulnerable towards rash action when distressed with a tendency to act without care or forethought.26

Acute Stress and BN
Stressful experiences in which demands exceed coping resources is an important precipitant of binge eating episodes.27 Following stress induction (binge-eating), blood oxygenation level dependent (BOLD) responses reduce but show significant increase prior to binge eating. BOLD signaling was observed in the anterior cingulate cortex, amygdala, and ventromedial prefrontal cortex, which is associated with reward processing during acute stress.28 Unlike AN, the anterior ventral insula gray matter volumes are increased on the left side in BN individuals. The medial orbitofrontal cortex, insula and striatum are altered in all EDs.29 The left insula receives information on gastric distention and self-reported fullness30 so it is possible that disturbed processing of this gastric input could promote excessive eating during binges.

Food Preference and Alterations in Brain Activity
Patients with BN often prefer sweet and soft foods, high in calories and carbohydrates.31 It is possible the brain processes sweetness and caloric content of sugar differently in BN. In recovered BN women, functional MRI measurements of brain response to repeated tastes of sucrose and sucralose shows an exaggerated response to energy (calories) of sucrose as opposed to the sweetness of sucralose in the right anterior insula and dorsal caudate,32,33 which may show an ignored response to repeated stimuli (habituation). Delayed habituation to energy dense foods suggests that recovered BN patients are “tuned in” to their gustatory cues which relate to hunger and cravings. Some authors recommend lowering the energy density of their foods, which may ease their weight concerns and lower the risk of compensatory behavior such as purging, but this approach may also be a risk factor for dieting and subsequent ED behaviors. Research examining changing brain responses to energy dense food over the course of BN recovery (1-3 years) could provide great insight for RDNs counseling these patients.

Gastrointestinal Symptoms and Disorders Associated with BN
Binge-eating and compensatory behaviors can lead to long-term serious gastrointestinal (GI) problems. Excessive food consumption and laxative abuse can cause gastric dilatation leading to necrosis and perforation of the stomach wall.34 Self-induced vomiting leads to several issues such as the presence of calluses on the hand (Russell’s sign), dental caries, salivary gland enlargement, gastroesophageal reflux disease (GERD), irritable bowel syndrome (IBS), constipation, and electrolyte imbalance. Frequency of vomiting is also associated with high serum amylase levels due to high intake of carbohydrates.34 GI disorders in BN can represent the same functional gastrointestinal disorders (biopsychological disorders) often present in non-eating disorder patients, but they may be experienced differently for those with BN. Pelvic floor dysfunction, bowel dysfunction, and abdominal discomfort correlates with laxative use.35 In a recent report, a 32-year old female with binge-purge type behaviors was complaining of abdominal pain, abdominal distention and vomiting.36 Clinical findings revealed small and large bowel diffusely dilated with contents from a binge episode. Reduced blood flow was present in portions of her intestines.36 It is important for emergency room physicians to understand the common presentations of ED patients; although symptoms can look familiar, their treatment should not be limited to conventional GI therapy.37

Complication and Treatment of Purging Behaviors
BN patients can encounter severe complications as their bodies attempt to compensate for purging behaviors.38 Patients who purge show clinical findings that mimic Bartter’s syndrome, a rare genetic disease in which faulty receptors in the kidney lead to excessive urinary loss of electrolytes (Na and Cl) and water, causing dehydration (which can be experienced by BN patients as a feeling of thinness). Dehydration causes a cascade of enzyme activity (renin-angiotensin system or RAS) resulting in the release of aldosterone from the adrenal glands. The goal of RAS activation is to prevent more dehydration and regulate blood pressure. It also causes Na (not NaCl) to be reabsorbed into the bloodstream and increased secretion of hydrogen and potassium by the kidneys. Without the reabsorption of Cl, there is a decrease in the exchange of bicarbonate for chloride causing

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bicarbonate retention (metabolic alkalosis). Once H+ and K+ are secreted into the distal tubule, they are lost in urine resulting in low blood potassium levels (hypokalemia). Hypokalemia causes muscle spasms and even paralysis in purging patients. When purging behaviors stop abruptly, patients may suffer from the undesirable effects of edema while RAS remains activated without the purging to offset its effects. Patients end up dehydrated and feeling faint making it necessary to treat with intravenous or oral sodium containing solutions that will stop aldosterone production and allow potassium repletion to be successful.

Furthermore, prolonged and excessive abuse of laxatives can cause cathartic colon syndrome making it more necessary to discontinue stimulant laxatives (casaca, senna, Bisacodyl) and switch to osmotic laxatives such as a polyethylene glycol (GlycoLax, Miralax) to prevent dependency. Ideally BN patients will stop all laxatives, but this is not always achievable.

Treatment for BN

Cognitive behavioral therapy (CBT), a symptom-focused treatment, remains the most supported modality of treatment for relieving bingeing and purging in the short term; yet, a 2-year follow-up showed 56% of patients still had recurrent episodes of binge-eating. Some authors hypothesize that poor recovery outcomes are linked to co-occurring interpersonal issues, which can also contribute to causes and maintaining factors. These authors suggest that to resolve interpersonal issues, a more patient-directed approach may be beneficial as opposed to evidence-based treatments such as CBT or family-based treatments (FBT). Interpersonal psychotherapy (IPT), integrative dynamic therapy and psychoanalytic psychotherapy allow patients to focus on what has happened over time and what is happening relationally and emotionally at the time symptoms emerge, giving them strong ability to discover their own mind without therapist-imposed conceptualization of their problems. Unfortunately, this approach lacks a strong evidence base.

According to some data, when patients receive an intense, multimodal inpatient treatment program embracing both individual and group psychotherapy, treatment may be effective in up to 75% of affected bulimic patients. Risk factors of BN present in early-middle adolescence can predict onset of disorders later in adolescence. Identifying adolescent variables that predict eating disorder onset and the specific risk cut-points of these variables can help youth with prevention work. Other studies suggest that roughly half of BN patients do not respond to evidence-based treatments and are reluctant to engage in treatment, which lengthens the illness and leads to poor outcomes such as gastrointestinal dysfunction, kidney dysfunction, prolonged psychological impairment and unhealthy personal relationships. Recovery from bulimia is a process; one-third of patients will remain with an ED after long-term follow-up. However, there is tremendous hope for recovery. As effective as some “evidenced-based treatments” appear to be, still further treatment development is needed. One could be a continued development of CBT while another could be the development of a more structured and symptom-focused version of a patient-generated psycho-dynamic approach. Evidently, diversified and individualized approaches may be of value.

While RDNs working in ED treatment settings typically agree on a consistent eating pattern (3-meals plus 1-3 snacks per/day), there is an absence of published literature comparing different types of nutrition interventions in the treatment of BN. It would be of great value to our field to see research comparing outcomes for BN based on different nutrition strategies, including “exchange” systems, food exposure therapy, food avoidance, mindful eating, and intuitive eating. There is a lack of research led by RDNs for EDs in general, so consider this a timely invite to engage in the research process. Ideally, we would investigate the type of food consumed, considering its “addictive potential” as well as controlling for presence of other addictive behaviors. This may lead to more individualized nutrition treatment approaches that appear greatly needed.

About the Authors:

Valerie Henderson, MS is a graduate of California State Polytechnic University of Pomona, where she received her BS in Animal Science/Pre-Vet Medicine and MS in Food Science and Nutrition. She is a current dietetic intern with Oakwood University and a lecturer at El Camino Compton College. She has been a passionate nutrition advocate/speaker in Los Angeles communities for the past 10 years. She has inspired young women at juvenile detention facilities, motivated seniors to live purposeful active lifestyles and educated hundreds of families on the importance of children’s nutrition.

David Wiss, MS, RDN is the founder of Nutrition in Recovery, which specializes in: Addictions, Eating Disorders, Mental Health, Body Image, and General Wellness. Mr. Wiss works closely with individuals to help them establish a new relationship with food and has shared his expertise with numerous eating disorder and addiction facilities throughout the greater Los Angeles area. David is currently working on his PhD in Public Health from UCLA.

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Click here to access a helpful resource for RDN research:
Clinical Practice-Based Research: Can I Do That? By Ruth Leyse-Wallace, PhD, RD
from the Spring 2015 BHNewsletter (1 CPEU available)
DISTINGUISHED MEMBER
Sharon Lemons, MS, RDN, LD, FAND
PRESENTED BY DIANE SPEAR
For Outstanding Contributions to the Profession of Nutrition and Dietetics

I first met Sharon Lemons as she served on the executive committee of BHN as Nominations Chair, then on to become Chair and the IDD Resource Professional. She has served BHN in various positions and committees for 12 years.

Sharon has contributed professionally to the Academy and BHN as a co-author of the original Standards of Practice and Standards of Professional Performance for RDs in IDD practice, submitted articles for BHN newsletter publications and presented webinars and FNCE podium presentations on behalf of BHN.

Sharon has contributed much to the profession of nutrition and dietetics in pediatric nutrition, children and adults with IDD, and in her own right has become a specialist in nutrition and autism across Texas and recently in other areas of the country. Due to funding cuts and legislative changes within the IDD community, Sharon is currently making an impact in the world of renal nutrition, where she is certain to make lemonade out of lemons!

EXCELLENCE IN PRACTICE ADDICTIONS
David Wiss, MS, RDN, CPT
PRESENTED BY APRIL WINSLOW

David is founder of Nutrition in Recovery of Los Angeles, CA, specializing in nutrition and addictions, eating disorders, mental health, body image, weight management, and sports nutrition. He successfully provides nutrition education, counseling, and consulting for individuals and groups, residential treatment centers, outpatient facilities, sober living homes and other recovery environments.

David has authored numerous articles for many publications and newsletters including BHN Newsletter, as well as many highly attended webinars and podium presentations.

His insatiable energy and passion for nutrition and the addicted brain has helped to put food addictions at the forefront in the field of disordered eating and eating disorders.

EXCELLENCE IN PRACTICE EATING DISORDERS
Adrien Paczosa, RD, LD, CEDRD
PRESENTED BY DIANE SPEAR

Adrien is the owner and CEO of iLiveWell Nutrition Therapy, LLC, a company she developed and grew from the ground up, providing nutrition services in two locations over the Austin, Texas area.

Adrien and company provide a broad range of behavioral health nutrition services to individuals, treatment centers, corporate groups, as well as community outreach programs with an emphasis in eating disorders and disordered eating.

Adrien has served in numerous leadership positions including the PR Chair and Board Chair for BHN and the Texas Academy Affiliate. She is responsible for bringing BHN into the social media world. BHN’s Facebook is, as Adrien would say, “amazing”!

Adrien is a CEDRD-S committed to the education and support of practitioners in ED. Ask Adrien about the recent debut of her online educational course and podcast!

EXCELLENCE IN PRACTICE INTELLECTUAL AND DEVELOPMENTAL DISABILITIES
Wendy Wittenbrook, MA, RD, LDN
PRESENTED BY JANICE SCOTT

Wendy has proven her expertise in nutrition and IDD through her many publications and presentations. She co-authored the Academy’s 2015 Position Paper on Nutrition Services for Individuals with IDD and Special Health Care Needs.

As a member of BHN, Wendy helped to develop the original Standards of Practice and Standards of Professional Performance for RDs in IDD practice and submitted publications for the BHN Newsletter and website.

As a Pediatric Clinical Dietitian at the Texas Scottish Rite Hospital for Children in Dallas, Wendy has counseled countless families with children with special needs and contributed to many projects. Wendy has contributed to outcomes research projects and podium presentations across the U.S. and abroad.

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EXCELLENCE IN PRACTICE MENTAL HEALTH
Jessie Hann, MS, RDN, LD, CDE
PRESENTED BY DIANE SPEAR

Jessie’s dietetics career over the past 20 years has encompassed several branches of the BHN tree. As an RDN with a Master’s degree in counseling, Jesse has a combined approach to nutrition and mental health in the treatment of people with diabetes, addiction, and bariatrics. She holds positions at the Kaiser Permanente Sunnyside Medical Center in Clackamas, Oregon providing nutrition therapy, nutrition education, and counseling for patients with diabetes.

As a bariatric dietitian at the Kaiser Permanente Northwest Sunnybrook Bariatric Program, she is addressing the underlying psychological issues of obesity and issues such as potential for cross-addiction and feelings of grief and loss.

At the Brookside Center Residential Program Jesse developed the facility’s nutrition education curriculum and facilitates activity groups for residents with addictions and mental health conditions. She is currently developing a curriculum for a cooking activity group with the assistance of the Kaiser chefs.

Jessie has been a BHN member for 20+ years and is a member of the workgroup for development of the BHN publication for the RD in nutrition and mental health.

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Two New Theories:

Depression


Strakowski asks “Should depression be thought of as a nonspecific response to brain injury rather than a specific condition per se?” Current proposed mechanisms for what is underlying depression include the monoamine hypotheses, GABA hypotheses, inflammatory hypotheses, and the HPA axis hypotheses.

It is often difficult to recognize depression, perhaps because depression is a heterogeneous and often nonspecific construct within the setting of other neuropathology. Depression is much more common in the presence of another psychiatric condition than it is in the general population (40-90%, compared to 7%).

Major depression has a heritability risk somewhere between 31% and 40%, compared to the heritable risk of alcohol abuse (~60%) or bipolar disorder (~85%). There may be many more environmental factors affecting depression than in other major psychiatric conditions.

Depression responds to a number of nonspecific treatments. It is often uncertain whether any given patient will respond to an SSRI, SNRI, or bupropion. The placebo response in depression tends to be very high. The most effective antidepressant we have, electroconvulsive therapy, is among the least specific treatments, suggesting that different types of depression perhaps are responding to different types of interventions.

Any medication that crosses the blood-brain barrier appears to increase the risk for major depression. This requires thoughtfulness and care when assessing depression and to look for potential associations with other conditions.

[How might nutrients and nutritional status fit into this new theory? RL-W]

Genetics


See also: https://www.eurekalert.org/pub_releases/2017-06/sumc-tog062017.php

A core assumption in the study of disease-causing genes has been that they are clustered in molecular pathways directly connected to the disease. But new work at the Stanford University School of Medicine suggests that gene activity of cells is so broadly networked that virtually any gene can influence disease. Any given trait, it seems, is not controlled by a small set of genes; instead, nearly every gene in the genome influences everything about us. In any cell, there might be 50 to 100 core genes with direct effects on a given trait, as well as easily another 10,000 peripheral genes that are expressed in the same cell with indirect effects on that trait. This new understanding of disease genes, an "omnigenic model" contrasts with the "polygenic model", in which each gene has a direct effect on a trait, whether that trait is something like height or a condition, such as autism. Pritchard's omnigenic model means biologists need to think a lot more about the structure of networks that link together those thousands of peripheral disease genes.

[Will nutrients be found to be influential at even deeper genetic levels than now known? RL-W]
Well-informed registered dietitian nutritionists (RDNs) will use the latest research to assess their clients’ nutrition status, neurobiology (the brain), and emotions as they are linked with the gastrointestinal tract (GIT). In reading this article, the connections between emotions, stress, and the eating habits of eating disordered clients should be kept in mind.

The Tale of Two “Brains”

The universe of the gut microbiome, the genetic information of the microbiota, is as complex as the brain. It has its own individually modulated world, and it figuratively functions as an organ system independent of the brain. The gut and the brain participate in bidirectional communication where the gut sends neuroendocrine signals to the brain, which can then control the motor, sensory, and secretory functions of the GIT. This communication pathway has come to be known as the “gut/brain axis.” Unlike the cranial brain, which is protected by the blood brain barrier, the GIT “brain” is exposed and connected to the outside world via the ingestion of substances such as food, drinks, oral medications, oral hygiene products, and all of the microbes that reside on/in them.

This GIT “brain” is highly sensitive, with receptors for taste, mechanical distortion, temperature, osmolarity, acidity, internal secretions, microbes (their antigens and products), and toxins. Dietary habits that promote healthy microbiota result in both “brains” working as a finely tuned, integrated system. Speculation regarding a connection between the gut and brain can be traced as far back as 1907, when Byron Robinson, MD described these two “brains,” stating that “in the cranial brain resides the consciousness of right and wrong. Here is the seat of all progress, mental and moral, and in it lies the instinct to protect life and fear death … However, in the abdomen there exists a brain of wonderful power maintaining eternal, restless vigilance over its viscera … it presides over nutrition. It is the center of life itself.” Although the science was rather simplistic at that time, this statement demonstrates that even then some clinicians recognized the importance of the gut in regulating body processes.

Microbiome Universe

Containing more than a trillion microbes, the human microbiota weighs between 2 and 6 lb. The GIT microbiota, specifically, is a complex system that is interlaced within the digestive organs. It is becoming increasingly clear that the GIT microbiota is both influenced by and influences brain processing through its effects on the gut/brain axis. The GIT is the main production center for the neurotransmitter serotonin, with more than 90% of the body’s serotonin being synthesized in the gut. The gut microbiome has been shown to be altered by physiologic stressors and to modulate mood, anxiety, and depressive behaviors. Recent studies have shown individuals with major depressive disorder (MDD) to have different microbiomes when compared with individuals without MDD. This altered microbiota is known as dysbiosis.

Good brain function depends on a highly functioning GIT, which in turn

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Figure 1. Major mechanisms of probiotics and their beneficial effects. (Source: Gut Microbiota for Health)
The Gut/Brain Axis...
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is directly related to a well-balanced diet.10 Food modulates the microbiome, which impacts overall health in a variety of ways. Specific dietary components such as dietary-resistant starches, which serve as prebiotics, appear to impact gut microbiota composition as well as modulate gut peptide production of glucagon-like peptide-1 (GLP-1) and peptide YY (PYY).11,12

Effects of Poor Nutrition

It is evident that clients who suffer from poor nutrition secondary to eating disorder (ED) behavior are adversely affected in more ways than calorie/protein depletion. Two important factors affecting the microbiome that are likely lacking due to poor nutrition in ED clients are dietary intake of prebiotics and probiotics.

The major mechanisms of prebiotics and their beneficial effects are shown in Figure 1. Prebiotics are dietary constituents that help stimulate and support good bacteria. The effects of prebiotics are varied and include helping to decrease the pH of the colon and enhance mineral absorption.13,14 Various prebiotics offer different benefits for the health of the gut microbiota. This is one example of why it is important to eat a varied diet. Classification of a food or food ingredient as a prebiotic requires a scientific demonstration that it: 1) resists gastric acidity, 2) is fermented by intestinal microflora, and 3) stimulates the growth and/or activity of intestinal bacteria associated with health and well-being.15-16

In the presence of poor nutrition in an ED client, it is reasonable to suggest that the needed prebiotic and probiotic substrates will be inadequate, as will the type of bacteria growth in the GIT and subsequently the nutrient cofactors for serotonin production; however, research is needed to confirm this assumption. The cascade effect of under-nutrition is currently being researched from the perspective of the gut/brain axis and the potentially detrimental effects on neurotransmitter function and the microbiota.

Often the client with an ED has a very limited (or excessive) diet and either under-consumes or over-consumes certain foods. An imbalance can occur in the microbiota if prebiotics and probiotics are not consumed together every day.16 It has been my experience that clients with an ED are often more likely to add a probiotic in pill form rather than consume probiotics through foods. To enhance the microbiota, one role of the RDN would be to encourage ED clients to consume both prebiotic and probiotic foods (see Tables 1 and 2). It is also recommended to include resistant starch. Similar to other prebiotics, the inclusion of resistant starch also helps to feed probiotics. These starches are found in cereals, unripe fruit, and cooked starchy products. In today’s poorly understood “low carbohydrate world,” these helpful nutrients may be completely missing from the diets of many clients, thereby compromising precious microbial function.

Possible Connections to Anorexia Nervosa

As mentioned earlier, limited crucial nutrition intake in anorexia nervosa (AN) could change the composition of the gut microbial community, thereby leading to dysbiosis. These changes could contribute to the anxiety, depression, and further weight loss among persons with AN.17 It is a potentially brutal cycle. Could altering the gut microbiota of people with AN help them with weight maintenance and mood stabilization over time? These questions are being researched and only until adequate data are available will we know.18-20

We do know that many clients with EDs have high levels of stress and anxiety. Teaching them techniques to improve mindfulness and attunement may help navigate the difficult waters of food fears.21 If RDNs teach clients that anxiety may be affecting the gut, and those effects actually may be worsening their anxiety and depression, this information may provide another tool to help motivate change. Understanding the huge impact of the world of the microbiota could help clients engage in self-compassion and thereby gain an understanding of the complexities of the whole human experience with less judgment, less fear, and a new willingness for self-care.21-23 Research in disordered eating and eating disorder populations is needed to confirm this.

About the Author

Pamela Kelle, RDN, CEDRD has more than 20 years of experience working with clients with disordered eating and eating disorders. She maintains a private practice, has a successful virtual online practice, and is a national speaker.

References


Table 1. Prebiotics Often Lacking in Diets of Disordered Eaters

<table>
<thead>
<tr>
<th>Artichokes (Jerusalem)</th>
<th>Wheat</th>
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<tbody>
<tr>
<td>Barley and Rye</td>
<td>Chicory</td>
</tr>
<tr>
<td>Onions (2-5 g/100 g for red onion)</td>
<td>Garlic</td>
</tr>
<tr>
<td>Shallots</td>
<td>Leeks</td>
</tr>
<tr>
<td>Chinese chives</td>
<td>Bananas</td>
</tr>
<tr>
<td>Berries</td>
<td>Berries</td>
</tr>
<tr>
<td>Soybeans</td>
<td>Soybeans</td>
</tr>
<tr>
<td>Chia/flaxseed</td>
<td>Chia/flaxseed</td>
</tr>
<tr>
<td>Burdock root</td>
<td>Burdock root</td>
</tr>
<tr>
<td>Peas</td>
<td>Peas</td>
</tr>
<tr>
<td>Legumes</td>
<td>Legumes</td>
</tr>
<tr>
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<td>Eggplant</td>
</tr>
<tr>
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<td>Honey (raw)</td>
</tr>
<tr>
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<td>Beets</td>
</tr>
<tr>
<td>Green and mugwort teas</td>
<td>Green and mugwort teas</td>
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Table 2. Probiotics Often Lacking in Diets of Disordered Eaters

<table>
<thead>
<tr>
<th>Batters made from rice and lentils</th>
<th>Kimchi, sauerkraut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vinegar, cider, pickling</td>
<td>Kefir, cultured milk products</td>
</tr>
<tr>
<td>such as yogurt</td>
<td>Fish sauce</td>
</tr>
<tr>
<td>Kombucha tea</td>
<td>Miso</td>
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<tr>
<td>Tempeh</td>
<td>Tempeh</td>
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</table>
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Delegate Update

Cynthia Burke, MS, RD, LDN
HOD BHN Representative

As a result of the dialogue from the October House of Delegates (HOD), the House Leadership Team (HLT) drafted a motion outlining action steps to address the mega issue, “Championing Nutrition and Dietetics Practitioners in Roles of Leadership in Public Health.” The initial review phase presented an opportunity for the delegates to request further clarification and to offer recommendations for changes to the motion. A summary of the actions that were considered included:

1. The Committee for Public Health/Community Nutrition and the Public Health and Community Nutrition Dietetic Practice Group: Create a definition of “high level public health” and identify gaps in current resources and educational opportunities related to advancing nutrition and dietetics practitioners to higher level leadership positions in public health.

2. Enhance the Academy’s e-mentoring program to help prepare mid- and advanced career nutrition and dietetics practitioners for and advancing to higher level of public health leadership.

3. Execute an annual marketing campaign recognizing nutrition and dietetics practitioners in high-level public health nutrition leadership positions during Public Health Week in April.

4. The Academy’s Executive Team and Board of Directors support an increase in nutrition and dietetics practitioners in roles of higher level leadership in public health.

5. Measure and track the number of nutrition and dietetics practitioners holding high-level leadership positions in public health.

6. Develop Level 2 and Level 3 educational opportunities to help advance nutrition and dietetics practitioners to high-level leadership positions in public health.

7. Affiliates, Dietetic Practice Groups, and Member Interest Groups develop, and report annually to the Academy, resources, alliances, and actions taken to help members advance to high-level leadership positions in public health.

8. Delegates lead and support efforts by their constituents to identify and pilot-test projects at the grassroots level aimed at increasing the number of nutrition and dietetic practitioners holding influential positions in public health.

The HLT took into consideration comments made by the delegates during the initial review phase. The motion was revised to provide more clarity and to allow the assigned Academy organizational units to determine the most appropriate tactics to meet the requests of the HOD.

The deliberation phase concluded on January 15th. The motion “Championing Nutrition and Dietetics Practitioners in Roles of Leadership in Public Health” was voted on January 19th and was carried.

• 58 supported/28 opposed – motion carried.

Spring 2018 HOD Virtual Meeting will be held on Saturday, April 21 and Sunday, April 22. The mega issue that will be discussed is “Evidence-based Practice”.

If you have any questions about the Academy of Nutrition and Dietetics or the House of Delegates, please feel free to contact me at hodrepresentative@bhndpg.org.

Legislative Update

Carol Bradley, PhD, RDN, LD, BCBA
BHN Policy and Advocacy Leader

It’s easier than you may think. To begin, just take the opportunity to introduce yourself and thank them for their service when they make a public appearance in a location near you. Be sure to let them know you are a registered (and licensed when appropriate) dietitian. Provide them with your business card and let them know you would be happy to answer any questions about nutrition, should one arise. Get your name out there so that when a critical piece of legislation comes up, it will be easier to ask them to promote it (or not), depending on how it benefits the public and/or our profession.

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Do you know someone within BHN who:

Is excellent in their practice area?

Then nominate them for the BHN Excellence in Practice Award!

Criteria for the award include:
• Membership in BHN for at least three years
• Current practice in the area of Addictions, Eating Disorders, Intellectual and Developmental Disabilities or Mental Health
• Must have made contribution to specified practice area

Has provided excellent leadership within the field of nutrition?

Then nominate them for the BHN Distinguished Member Award!

Criteria for this award include:
• In practice for at least 10 years and a member of BHN for at least five years
• Active participation at the national, state, and/or district level.
• Demonstrated leader in the profession for populations served by BHN members (through legislative involvement, research, management, education, publications or other)

For more information visit the BHN website at www.bhndpg.org under the member only section.

Nominations accepted from March 1st to May 31st

As a member of the Academy of Nutrition and Dietetics, please urge your policymakers to support legislation that protects and values nutrition services in areas of prevention and treatment, including treatment and reduction of obesity and diabetes prevention. It is important for members of Congress to hear from their constituency. As vital decisions are made regarding health care in the upcoming weeks, the voice of every member is critical. Please take action today!

Other news

Affiliate Training Webinars Available on the Community Network

For those interested in becoming a Policy Advocacy Leader (PAL), the PIA team is in the process of updating the Affiliate training webinars. They recently uploaded three NEW webinar recordings to the COI—the Affiliate President, PPC and DPG PAL trainings are now available. These new webinars are shorter and more concise! The trainings are very thorough. PALs will go to Capitol Hill in the days following FNCE in October 2018. Even if you are not a PAL, you are still welcome to participate. More on that topic in the next issue.

Legislative Update (continued from page 18)

Another easy thing to do is to pay attention to action alerts. You may have responded to that topic in the past, but it “ain’t over till it’s over!” For example, we have been asked multiple times to take action regarding the Treat and Reduce Obesity Act (TROA). It is time once again.

The Academy has a whole group who monitor these bills and the changes. Currently, the Academy encourages you to contact your Senators and Representative today and ask them to support the Treat and Reduce Obesity Act, a bill which will help address the obesity epidemic by providing better treatment options from health professionals such as RDNs.

Regarding TROA - H.R. 1953/S.830: According to IHS Markit’s whitepaper, a newly validated microsimulation model predicts that increasing Medicare beneficiaries’ utilization of these clinically effective obesity treatments could save Medicare $19 to $21 billion over the next 10 years. Also, the CDC has estimated that one-third of U.S. adults have obesity. These stunning statistics are another reminder of the importance of intervention and counseling from RDNs. There are several ways you can get involved.
## Behavioral Health Nutrition Executive Officers 2017-2018

### EXECUTIVE OFFICERS

- **Chair (2017-2018)**
  Janice Scott, MS, RDN, DSC, LD
  chair@bhndpg.org
- **Chair-Elect (2017-2018)**
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- **Past Chair (2017-2018)**
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- **Secretary (2016-2018)**
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  secretary@bhndpg.org
- **HOD BHN Representative (2015-2018)**
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  Jean Daniello, MS, RDN, LDN, CDE
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- **Mental Health Resource Professional (2016-2018)**
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- **Nominating Committee Member**
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  **Voting Member**

## Behavioral Health Nutrition Executive Committee and Volunteers

A complete list of Behavioral Health Nutrition Executive Committee members and volunteers is available at www.bhndpg.org.

## Contribute an article or topic for future BHNewsletter issues!

Contact newslettereditor1@bhndpg.org or one of the BHN leaders listed in this newsletter.

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### Behavioral Health Nutrition: Fuel Your Brain, Feel Your Best!

**Mission:** Empowering BHN members to excel in the areas of Addictions, Eating Disorders, Intellectual and Developmental Disabilities and Mental Health by providing resources and support.

**Vision:** Optimizing the physical and cognitive health of those we serve through nutrition education and behavioral health counseling.

[Academy of Nutrition and Dietetics website:](www.eatright.org)
[BHN website:](bhndpg.org)
[BHN practice standards:](www.bhndpg.org/members/practice-standards/)