

BHN: Fuel Your Brain, Feel Your Best!



Nutrition, Genetics and Behavioral Health

By Ruth Leyse-Wallace, PhD, RD



WINTER 2013 INSIDE this issue

Introduction
The influence of nutrients and nutritional status on gene expression has captured the attention of scientists in diverse areas; knowledge is rapidly expanding in these and complementary areas. The capacity for making individualized nutritional recommendations related to genetic make-up is becoming a reality. What an interesting and exciting time for nutrition scientists, dietitians, and other health care professionals

Terminology
Nutrigenomics studies the effect of nutrients on the genome. It is a prospective, discovery science which aims at understanding how nutrition influences metabolic pathways and homeostatic control and how this regulation is disturbed in the early phase of a diet-related disease.

Nutrigenetics is the retrospective analysis of genetic variations among individuals. It is an applied science that studies how the genetic makeup of an individual affects the response to diet and the susceptibility to diet-related diseases. The goal of nutrigenetics is to provide personalized recommendations or individualized nutritional care.

Metabolomics refers to the emerging science of comprehensive profiling of individual metabolites linked to an understanding of health and human metabolism (1).

Polymorphism refers to a specific genetic change in > 1% of the population. "SNP" refers to a Single-Nucleotide Polymorphism. Each SNP represents a difference in a single genomic deoxyribonucleic acid (DNA) building block, called

a nucleotide. For example, a SNP may replace the nucleotide cytosine (C) with the nucleotide thymine (T) in a certain stretch of DNA. SNPs occur normally throughout a person's DNA. They occur once in every 300 nucleotides on average, which means there are roughly 10 million SNPs in the human genome. Most commonly, these variations are found in the DNA between genes. They can act as biological markers, helping scientists locate genes that are associated with disease. When SNPs occur within a gene or in a regulatory region near a gene, they may play a more direct role in disease by affecting the gene's function. "CNV" refers to Copy Number Variants, structural gene variation involving multiple copies or deletions of large parts of the genome. CNV can be inherited or result from de novo mutation, a genetic mutation that is neither possessed nor transmitted by a parent. The extent to which copy number variation contributes to human disease is not yet known, however it has long been recognized that some cancers are associated with elevated copy numbers of particular genes. De novo mutations may explain genetic disorders in which a child has cell mutation, but no family history of the disorder. Polymorphisms are responsible for many of the normal differences between people such as eye color, hair color, and blood type. Although many polymorphisms

Four nucleotide bases bond and form the double-helix structure of Deoxyribonucleic acid (DNA):

- Adenine pairs with Thymine
- Guanine pairs with Cytosine.

In Ribonucleic acid (RNA), Uracil is the base which pairs with Adenine during transcription.

have no negative effects on a person's health, some of these variations may influence the risk of developing certain disorders.

Mechanism of Influence

DNA is like a word-processing document that is

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From the Chair

Therese Shumaker, MS, RD, LD



Thanks to all of you who stopped by our booth at FNCE! We appreciate your support. Thank you to all our members. I met a number of you who have been BHN supporters for many, many years- thank you for your commitment to this amazing practice group BHN! We currently have about 1600 members, and we keep working to increase those numbers, and provide you with what you need. This spring we will be offering our members a webinar on motivational interviewing, and a webinar highlighting a topic related to the Intellectual and Developmental Disabilities subgroup. We have also been working at updating some of our resources. Soon, you will see the 2nd edition of the Nutrition and Addiction book written by Anne Hatcher. This is a wonderful resource for those who work in the addiction field. We are also looking for members that might be interested in working on updating our Psychiatric Nutrition Therapy Manual. Please send me an email if you would like to help: Shumaker.therese@mayo.edu

We have submitted our ballot for the elections that are coming up in February; please remember to vote for a BHN Chair- Elect, Treasurer and Nominating Committee member.

"Cutting edge" treatment approaches is the focus of this newsletter. These are important topics for me as a dietitian but also more important to me as a mother! My daughter who is now 20 years old has struggled with generalized anxiety disorder, and major depression disorder since she was fourteen. She has had a number of therapists, and some have been more helpful than others. She has told me many times that the treatment approach that works best for her is not just one specific therapy, but someone who can utilize a wide variety of helping techniques. She has done all the workbooks, hypnosis CDs, relaxation tapes and a wide variety of other types of therapies. What has worked is having a person that cultivates hope, someone who wants to listen and provide her with the courage to keep pushing forward when her illness tells her to quit. While many types of approaches and therapies have given her some insight into her illness, and have been a part of her recovery, one other thing that stands out is that human element- the one thing we all possess, and the reason we are members of BHN; we want to help people!

What is my point in telling you this?

Treatment approaches need to be individualized for each person; they can overlap, be used together or separately. One person may benefit from CBT and another person DBT, and there are those that only use medication in their recovery efforts. BHN wants to help fill your toolbox, exposing you to a number of different ways to help the populations you serve. This edition of the newsletter has a variety of different articles, exposing you to new ideas or treatment approaches, each offering something that you might be able to use in your work.

No matter what role you fill; therapist, dietitian, student, friend, coworker, spouse or parent; BHN has something to offer you! We are always looking for people to get involved! Maybe you have a treatment approach that you would like to write about, or talk over with other members on the list serv. I urge you to get involved, expand your toolbox, and enjoy the journey on becoming a better YOU, no matter what role you take on, or what treatment approaches you choose to utilize.

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"read-only", whereas Ribonucleic acid (RNA) is a transcript that permits, and even requires, cutting and pasting (called splicing) to get to the final version. Scientists estimate that 15–60 percent of human genetic diseases involve splicing mutations (2). Genetic changes may alter which amino acid is incorporated into a protein or change the shape/conformation of an enzyme and decrease its affinity and binding with metabolic products. Decreased affinity may lower the activity or function of the enzyme. Direct interactions, in which a nutrient binds to a receptor and then binds to DNA, *acutely induce* gene expression. Epigenetic interactions in which a nutrient alters the structure of DNA, *chronically alters* gene expression (3). Nutrition affects gene expression at the transcription, translation and post-translational levels (3). Levels of potential alteration of gene expression are depicted in Figure 1. Nutrition, physiological and psychological stress, chemicals, and infections, are examples of factors in epigenetic regulation of gene expression (4).

There have been 3,827 enzymes cataloged; 22% use a cofactor. Vitamins that

are known to be cofactors include thiamin, riboflavin, niacin, pyridoxine, folic acid, pantothenic acid, and B12. Minerals which function as cofactors include magnesium, calcium, zinc, iron, and potassium. For vitamin-dependent enzymes, a decrease in affinity may be overcome by providing high-dose supplements of the vitamin. About fifty human genetic diseases that involve defective enzymes can be remedied by high concentrations of the vitamin component of the co-enzyme (5).

Nutrients May Increase or Decrease Gene Stability

Genomic instability refers to an increased mutation rate involving chromosomal abnormalities, translocations, insertions, deletions and base changes. Different nutrients may affect genetic stability in opposite directions. Using the micronucleus (MN) as a biomarker to measure genome damage in lymphocytes, Fenech investigated whether a 6 month randomized trial of supplementation with beta-carotene, vitamin C and E and Zn improves genome stability.

The highest tertile intake of vitamin E, retinol, folic acid, nicotinic acid, and calcium was associated with significant *reductions* of MN, signifying genomic

stability. The highest tertile of riboflavin, pantothenic acid, and biotin were associated with significant *increases* of MN, indicating less genomic stability.

The MN index serves as a sensitive biomarker; formation is associated with chromosomal instability, and correlates with estimated dietary intake of nutrients.

Supplementation with combined A, C, E, and Zn significantly reduced the MN index, showing a protective effect of these nutrients. The destabilizing effect of riboflavin status was influenced by low folate intake (6).

Cognitive Tests Influenced by B12 and B6

The C677T polymorphism of the methylenetetrahydrofolate reductase (MTHFR) gene differs in frequency in various ethnic groups that have differing prevalence of age-related cognitive impairments. In a study of two ethnically diverse cohorts of community-living adults: a) the Boston Puerto Rican Health Study (n = 939) and b) the Nutrition, Aging, and Memory in Elders study (n = 1017), individuals in both

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Figure 1. Levels of potential alteration of gene expression

Alteration Level	Alteration Description	Alteration Process and Mechanisms
Transcription: DNA → RNA	Refers to cells machinery in the nucleus copying the gene sequenc into the mRNA (messenger RNA)	The mRNA travels from the nucleus to the cytoplasm; processes regulated by host of influences in cell environment; same gene can be transcribed in multiple ways, depending on the combination, presence, or absence of various transcriptional regulator proteins; for examples http://www.nature.com/scitable/topicpage/gene-expression-14121669 and http://learn.genetics.utah.edu/content/begin/dna/transcribe/
Translation: RNA → Protein	Refers to the protein-making machinery in the cytoplasm, (the ribosome) reading the mRNA sequence and translating it into the amino acid sequence of a protein	Starting with an AUG sequence, three nucleotides are read at a time, each triplet specifies a particular amino acid (eg.,UUU and UUC both translate to phenylalanine, AAA and AAG translate to lysine), Stop and start combinations are UAA, UAG and UGA, a signal that the protein is complete; a number of antibiotics act by inhibiting translation including tetracycline, streptomycin, erythromycin among others; since prokaryotic ribosomes have a different structure from that of eukaryotic ribosomes, antibiotics can specifically target bacterial infections without any detriment to a eukaryotic host's cells; http://www.nature.com/scitable/topicpage/gene-expression-14121669
Post Translation: Protein → Alteration in function	Refers to the chemical modification of a protein after its translation ; <i>Posttranslational modification (PTM)</i> is one of the later steps in protein biosynthesis , and thus gene expression , for many proteins	While the genome comprises 20-25,000 genes, the proteome (the modified, functional proteins) is estimated to be over 1 million proteins; many polypeptides start with the amino acid methionine because the "start" codon (AUG) on mRNA also codes for this amino acid; Methionine is usually removed during post-translational modification; common posttranslational modification of amino acids attaches functional groups (such as acetate, phosphate, various lipids and carbohydrates), changing its chemical nature or making structural changes (eg., creating the disulfide bridge in insulin); Methylation occurs so often that SAM (S-Adenosyl methionine) has been suggested to be the most-used substrate in enzymatic reactions after ATP (adenosine triphosphate); while N-methylation is irreversible, O-methylation is potentially reversible; Methylation is a well-known mechanism of epigenetic regulation, as histone methylation and demethylation influences the availability of DNA for transcription.

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cohorts underwent 1) anthropometric 2) laboratory measurements, and 3) dietary and health assessments between the years 2003 and 2007. Cognitive outcomes included measures of global cognition and 3 factor scores for the domains of attention, executive function, and memory derived from a detailed set of neuropsychological tests.

Low plasma vitamin B-12 concentrations were associated with poorer Mini-Mental Status Exam (MMSE) scores and higher depression scores. Low vitamin B-6 concentrations were associated with lower MMSE and worse attention and executive function in the multivariate analysis. In contrast, MTHFR genotype, folate, and homocysteine were not associated with cognition or depression in either ethnicity-pooled or stratified analysis. The study did not find evidence of an association between the MTHFR C677T TT genotype and impaired cognition or depression in a population with adequate folate status and a high prevalence of cognitive impairment and depression (7).

Energy Status, Exercise and Mental Health

Sub-optimal energy status, including under-nutrition and over-nutrition, is implicated in many disorders of mental health and neurology. These actions are mediated by changes in energy metabolism and multiple signaling molecules, for instance, brain-derived neurotrophic factor (BDNF). They often involve epigenetic mechanisms, including DNA methylation and histone modifications. This molecule is involved in prenatal and adult neurogenesis, in the growth, differentiation and survival of neurons and synapses, and in synaptic plasticity, and is vital for learning, memory and cognition. The beneficial effects of physical activity on mental health and cognition can be explained in part by induction of

Energy status includes energy intake, physical activity and energy metabolism; a broader and less precise meaning than energy balance. It is used in the present review because both over-nutrition and under-nutrition, for example, adversely affect brain health (3).

BDNF gene expression in the hippocampus. Moreover, the adverse effects of high energy intake or strenuous exercise are related to an increase in reactive oxygen species, decrease in BDNF expression, and compromised synaptic plasticity and cognition (4).

Alzheimer's Disease

Alzheimer's Disease (AD) is mainly sporadic in that the late-onset form does not involve inherited mutations. Causes of AD involve changes in expression of thousands of genes, and up-regulation of multiple pathogenic pathways including amyloid β -peptide deposition, tau hyperphosphorylation, apoptosis or cell death, inflammation, oxidative stress and energy metabolism.

Particularly relevant is apoE, which is essential for cholesterol metabolism in the central nervous system. Just one copy of the gene variant apoE4 is linked with a 4-fold increase in risk for AD, while two copies increase the risk 10-fold. This may be due in part to greater vulnerability to environmental factors because of poor brain protection and repair mechanisms. In contrast, apoE4 carriers sometimes have a lower level of risk factors for cognition and dementia such as inflammation, hyperhomocysteinemia and overweight. The apoE2 variant may protect against Alzheimer's, relative to the common apoE3 allele. Additional genes involved in inflammation and metabolic disruptions are associated with the disease (4).

Eighty-six percent of patients with advanced dementia have eating problems. These include reduced oral intake, refusal to eat or drink, problems with chewing and swallowing, and resultant dehydration and weight loss. Survival is poor after the onset of infectious episodes or eating problems. Their occurrence often indicates that the end of life is near. Mitchell and colleagues from the Hebrew Senior Life Institute for Aging Research, Boston, conclude that a better understanding of the clinical trajectory of end-stage dementia is a critical step toward improving the care of patients with this condition (8).

Vitamin D

Four gene variants were found to be associated with concentrations of 25-hydroxyvitamin D. They encode 1) a

protein that binds and transports vitamin D, 2) the enzyme that converts a vitamin D precursor into cholesterol, 3) a liver enzyme that may enable vitamin D hydroxylation, and 4) an enzyme involved in vitamin D degradation. In a study by Thomas J. Wang, MD, Harvard Medical School, two thresholds of vitamin D insufficiency were used: circulating concentrations of 25-hydroxyvitamin D lower than 75 nmol/L (30 ng/mL) and lower than 50 nmol/L (20 ng/mL) (9,10).

A study of three immunosuppressants (tacrolimus, sirolimus, and cyclosporine) metabolized by CYP3A4 were investigated in Sweden for seasonability in plasma levels. In vitro data indicate that vitamin D may up-regulate the expression of the CYP3A4 gene. Sirolimus and tacrolimus levels showed seasonal variability that was highly consistent with changes in vitamin D; for example, significantly lower drug concentrations in July to September than in January to March (11).

Attention Deficit Hyperactivity Disorder (ADHD)

The most widely replicated candidate gene studies for ADHD have targeted gene variants associated with dopamine function. These include the dopamine D4 receptor gene (DRD4). The specific variants of the DRD4 gene increased the risk for ADHD to 34%-68%. Another variant of the DRD4 gene significantly reduced risk for the disorder. Other investigations involved 1) hypothesized modulation of effects of stimulant medications (DAT1), 2) the enzyme primarily responsible for degrading dopamine into norepinephrine (DBH), 3) the serotonin transporter gene (SLC6A4), and 4) the synaptosomal-associated protein 25 gene (SNAP-25). Results of many studies are suggestive, but inconclusive (12).

In a full genome-wide analysis for 366 children with ADHD and 1047 controls, 57 large, rare CNVs were identified in children with ADHD and 78 in controls, showing a significantly increased rate of CNVs in ADHD. This increased rate of CNVs was particularly high in those with intellectual disability although there was also a significant excess in cases with no such disability.

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An excess of chromosome 16p13.11 duplications was noted in the ADHD group. CNVs identified in the ADHD cohort were significantly enriched for loci previously reported in both autism ($p=0.0095$) and schizophrenia ($p=0.010$). The analysis on a UK population was replicated in an Icelandic population (13).

Nutrient Requirements: Research and Recommendations

Scientists are beginning to understand how genetic variation and epigenetic events alter requirements for, and responses to, nutrients. For example, there is at least a twofold variation in dietary intake of choline in humans. When deprived of dietary choline, most men and postmenopausal women developed signs of organ dysfunction (fatty liver or muscle damage), while less than half of premenopausal women developed such signs. Aside from gender differences, there is significant variation in the dietary requirement for choline that can be explained by very common genetic polymorphisms (14). Most nutrition studies assume that all persons have average dietary requirements, and the studies often do not plan for a large subset of subjects who differ in requirements for a nutrient. Large variances in responses that occur when such a population exists can result in statistical analyses that argue for a null effect. If nutrition studies could better identify responders and differentiate them from nonresponders on the basis of nutrigenomic or metabolomics profiles, the sensitivity to detect differences between groups could be greatly increased, and the resulting dietary recommendations could be appropriately targeted. It is not certain that nutrition will be the clinical specialty primarily responsible for nutrigenomics or metabolomics, because other disciplines currently dominate the development of portions of these fields (15).

Genetic Testing

Genetic testing can confirm the diagnosis of the presence of a rare or uncommon, but treatable disease, such

as hemochromatosis, sparing individuals pain and suffering. A genetic diagnosis often indicates that other family members are at risk for the same condition, such as susceptibility to breast and ovarian cancer. The identification of risk does not necessarily lead to treatment options, for example, in Huntington's disease. However, knowledge may result in prevention of the disease for a future generation. Genetic testing may identify carriers of a disorder, disclose diagnosis of genetic disease in newborns, children, and adults, and may also predict drug responses.

Examples of Molecular Genetic Tests and a comprehensive and continually updated listing of available tests can be found at the GeneTests–GeneClinics Web site (<http://www.geneclinics.org>).

Regulatory Switches Outside of Genes

The Encyclopedia of DNA Elements (ENCODE) international study group published 35 papers on September 6-7, 2012, in *Nature*, *Science*, *Genome Biology*, and *Genome Research*. In a commentary of the papers, Eric Topol, MD, Director of the Scripps Translational Science Institute in San Diego reports, "In the genome-wide association studies, 95% picked up markers outside of coding elements – in regulatory elements within the gene or outside of genes altogether. . . regulating switches and circuits that influence disease susceptibility actually come from outside of genes and outside of coding elements – and approximately 20% of the genome is what, by all consensus criteria, would be considered functionally active. . . . Common variant markers. . . can actually have an influence on a gene that is hundreds of thousands of bases away. . . . Another big finding is that they identified pivotal transcription factors that work across many different processes of a disease family. There is a beautiful example, again in the *Science* paper, with the IRF9 transcription factor that is tied into so many different pathways of autoimmune diseases" (16).

Conclusion

Dietitians and other health care professionals need to be alert to expanding

knowledge regarding 1) the effect of nutrients on the genetic risk of disease and health, and 2) individual variation in requirements for, and response to, micro- and macro-nutrients. Growing knowledge is increasingly applicable to clinical practice, research and formulation of nutrition policy.

About the Author

Dr. Wallace earned her doctorate at the University of Arizona in 1998 and practiced clinically for 30 years in the field of nutrition and mental health. She has published two books (*The Meta-paradigm of Clinical Dietetics and Linking Nutrition to Mental Health*) with a third, *Nutrition and Mental Health*, due for publication in January 11, 2013 (for more information see <http://www.crcpress.com/product/isbn/9781439863350>). She has scheduled an upcoming lecture on The PsychoNutriologic Person to a multi-disciplinary group joining dietetic students at Point Loma Nazarene University in San Diego.

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The Role of Temperament in Eating Disorders

By Mary E. Kuester, MA, RD, LD

Personality Traits and Eating Disorders

In general, people with bulimia nervosa (BN) may be characterized as more social, impulsive, and emotionally dysregulated; whereas people with anorexia nervosa (AN) may be characterized as more introverted, constricted, obsessive and compulsive, harm avoidant, with lower risk tolerance (1-6). The influence of personality traits on eating disorders has been a subject of numerous studies, exploring the causes, effects, characteristics, and implications for treatment.

Whether certain personality traits exist prior to the development of an eating disorder or are a result of experiencing the disease is not fully known. Lilienfeld et al studied personality traits, comparing a control group to individuals with BN with and without a familial history of ED (2). Women with BN, who had a close family member with an ED, showed increased stress reactivity, perfectionistic doubting, and lower interoceptive awareness (the ability to identify and respond to emotional states as well as identify visceral sensations). Even with no close family history of an ED, women with BN still had heightened characteristics of perfectionism, ineffectiveness, and interpersonal distrust. With regards to perfectionism, the researchers found that there were significant differences in relation to concerns over *Mistakes*, *Parental Criticism*, and *Doubting of Actions*

among the never ill relatives of those with BN. This suggests that some personality traits may be passed within families, placing individuals at risk for developing an eating disorder.

Pryor and Wiederman compared personality characteristics between subjects with BN and AN using the Multidimensional Personality Questionnaire (MPQ) (4). They found that both groups had low scores on *Well-Being* meaning that feelings of felt joy or excitement were diminished with a tendency toward unhappiness. Both groups scored high on *Stress Reaction* and *Negative Affectivity*, indicating that participants may be more worrisome, irritable, and emotionally dysregulated. AN subjects scored higher on *Control* or lack of impulsivity, higher in emotional-behavioral *Constraint*, and lower on *Absorption*. These results imply that subjects with AN may be more cautious, timid, restrained, conventional, avoidant of risky behavior, and less likely to engage in significant fantasy life or absorb sensory experiences. It is important to note that these subjects were in outpatient treatment at the time of the study and their nutritional status including adequacy of intake may impact the results of the study.

Through the study of BN in recovery, the negative long-term consequences of eating disorders can be seen. Alienation and poor emotional responses to the environment were seen in recovered BN clients (2). And individuals may show

persistent elevations in eating and weight related concerns, ineffectiveness, perfectionism, depression and trait anxiety, reduced social security, reduced social closeness, and reduced wellbeing as well as elevated stress reaction and negative emotionality (5).

Personality Traits and Eating Disorder Treatment

It is important for clinicians, including dietitians, to be aware of the personality traits among clients with eating disorders and how these traits might impact treatment. Clients may benefit from the utilization of different treatment approaches geared towards their personality. For example, clients that fit into the more traditional AN profile (low novelty seeking, low risk taking) may require a slow rate for weight restoration. They may also benefit from slower paced, less intensive treatment models over hospital based programs. In addition, they will most likely require help becoming more self directed and confident in their own abilities. In contrast, clients that fit the more traditional BN profile (impulsive, emotionally dysregulated) will require different approaches that focus on delaying symptoms and learning how to deal with significant shifts in emotion. There are two different types of psychological therapies that address these challenges, Acceptance and Commitment Therapy and Dialectical Behavioral Therapy.

Acceptance and Commitment Therapy (ACT) is an approach that helps

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people accept the situation that they are in (both good and bad), choose a valued direction, and take action (7,8). It recognizes that pain is part of life and that the avoidance of pain creates more problems than the pain itself. Typical eating disorder behaviors attempt to help the client avoid pain, providing a way to “get through the day” in an unhealthy way. In contrast to the typical mode of coping, ACT teaches clients to assess their thought patterns for truth—as all thoughts are not true. For example, client who has experienced a significant trauma may believe, based on his or her thoughts, that they are “broken” or “damaged” when the reality is different. They are encouraged to see that their thoughts may not be an accurate reflection of who they really are. Therapists using ACT help their clients open themselves to experiencing their thoughts and feelings as they are and not what they think they are. Clients are encouraged to identify their values and begin to take small, meaningful, concrete steps that help them live the life they dream of. This type of approach is helpful for those clients who have difficulty taking initiative and are fearful of taking risks.

Dialectical Behavior Therapy (DBT) was developed by psychologist Marsha M. Linehan to improve outcomes for clients with Borderline Personality Disorder (9). Typically, these clients have difficulty managing their emotions effectively and often struggle with self-harm including suicidal ideation and attempts. DBT is a combination of cognitive behavior therapy, distress tolerance, acceptance, and mindfulness. More recently, DBT has been used for other clients that struggle with self injurious behavior, trauma, chemical dependency as well as eating disorders.

Figure 1. Examples of possible treatment approaches

- Adjust meal plans for a slower rate of weight restoration.
- Give clients with the traditional AN profile the opportunity to discuss thoughts, feelings and anxiety about weight restoration.
- Work with clients to develop strategies for delaying symptoms such as distraction, relaxation and mindfulness.
- Consult with client therapist to determine which approaches would be best.
- Help clients identify their values and link these values with treatment strategies (i.e. client wants to earn a degree but is unable to attend college due to eating disorder- ask how weight restoration can help client reach goal and what small step can they take to help them get there).

Traditional DBT involves individual and group therapy as well as homework assignments and regular contact with an individual therapist outside of the group. These clients learn skills that help them observe their thoughts and feelings without judgment, learn distress tolerance skills, and learn to identify their emotions and regulate them. This type of therapy can be helpful for those clients with eating disorders who need to learn to manage their fluctuating moods and emotions without using their eating disorder.

Implications for Dietitians

Knowledge and awareness of personality traits can help enhance nutritional interventions in the treatment of clients with eating disorders. Dietitians should collaborate with the client’s individual therapist or treatment team to ensure that the client’s individual personality is honored in treatment. In addition, it would likely be beneficial for dietitians to obtain additional training on different types of therapy models to increase understanding (Figure 1).

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Specialized, Coordinated Multidisciplinary Healthcare Service for Individuals with Intellectual Disabilities and Mental Health Disorders (ID/MH)

By Lauren Charlot, PhD

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You Can't Always Get what You Want, But if You Try Sometimes...

Our multidisciplinary team evaluated John, a 25-year-old young man with Autistic Spectrum Disorder (ASD) several years ago. He was referred for increasing severe behavioral difficulties, and his life, according to his mother, had been "turned upside down." He was about to lose his day program because of his severe aggression and self-injurious behavior. He had always had some problem behaviors, but the intensity and frequency of these had grown markedly over the past year. He now had 2:1 staffing because he was a tall, strong young man and when he had "melt downs," he was unfortunately very dangerously aggressive. He had several Emergency Department (ED) visits, when even his experienced staff could not manage his behavior. He was also hospitalized for 20 days on an inpatient psychiatric unit. He was now treated with 5 psychoactive medications, including 2 antipsychotic drugs. Our team reviewed his history in detail, interviewed his caregivers and family and observed and directly evaluated John. We looked at a lot of information about the nature of his problem behaviors, the context in which these occurred as well as reviewing all records regarding his health and developmental history. One small detail struck a cord. John occasionally seemed to spit back up some of his food undigested after meals, and he seemed to cough very slightly during and just after eating. After a lot of groundwork and planning, it was arranged for John to have an upper endoscopy under sedation. The test revealed a highly significant degree of esophageal excoriation related to what was likely to have been a long-standing problem with severe gastroesophageal reflux disease or GERD. John had also developed severe constipation. Once these medical conditions were more aggressively

treated and began to improve, his mother said he was a "new man." His behavioral crisis was resolved.

John was one of many cases we saw at the UMass Memorial Multidisciplinary ID/MH Consultation and Evaluation Clinic. All patients are referred for a "second opinion" because they have severe challenging behaviors (CBs) and/or psychiatric illness in addition to ID, and teams have been unable to determine the causes of their "treatment resistance." Our multidisciplinary evaluation team has been seeing individuals with ID and challenging problems for several years, initially to help divert patients from inpatient admissions to our specialty ID/MH inpatient unit. In many cases, we found that health problems and medication side effects were a prime cause of agitated behaviors in patients with intellectual and developmental disabilities (IDD). These patients frequently received psychiatric treatment (psychoactive medications, emergency assessments, hospital admissions). If the detection and treatment of these medical problems can be increased using simple and inexpensive models of care, very expensive and disruptive care may be avoided, while improving the patients' health and quality of life. At UMass Memorial Healthcare and UMass Medical School, pilot projects will examine how multidisciplinary assessment and care for patients with IDD/ASD referred for mental health treatment can help improve quality outcomes and reduce suffering, as well as contain long term costs of care. It may be that identification of health problems that affect behavioral and mental wellness is more complicated in patients with ID for several reasons:

- Patients with ID are poor reporters of their own health problems; many individuals with ID will express pain or physical distress behaviorally.
- Often, much of the information about what may or may not be

wrong health-wise or medically comes from observations of others.

- Problem behaviors like aggression, tantrums, self-injurious behaviors and property destruction may act as a "final common pathway" for distress in individuals who have a limited behavioral repertoire (few ways to express distress, poor functional communication). Even when there is a nonpsychiatric medical cause, on the surface, it looks like a behavioral or mental health problem.
- When people with ID carry psychiatric labels, or have a history of engaging in challenging behaviors, there is even more of a tendency to view problems as due to the psychiatric disorder, and as requiring a psychiatric solution, even when the actual cause is a problem like constipation, dental pain, complications related to seizures or other medical causes.
- Medical providers who do not see a large number of patients with ID may have difficulty recognizing the usual kinds of "occult" medical problems that might be affecting mood and behavior, or give up on completing tests that are hard to accomplish with our patients.

A person that has very complex needs may be having medication changes made by multiple prescribers, inadvertently leading to increased risk of adverse drug events (ADE), that may, in turn, provoke agitated behaviors, which drive the addition of psychoactive medications to treat presumed exacerbations of mental illness.

The Whole is Greater Than the Sum of the Parts

In the new "UMass ID/MH Multidisciplinary Collaborative Care" program, patients will be followed closely to identify non-psychiatric medical problems and ADEs using a variety of strategies to include a newly developed surveillance tool designed to provide

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caregivers with very clear behavioral descriptions of frequently missed problems like constipation, sedation, and orthostasis. Patients will be served along a continuum of care with some having an actual “Medical Home” with our team (all of our team members will be the direct care providers), while others will be helped through comprehensive evaluation followed by consultation, support and training provided to the treatment team and family. We are excited to be able to provide a comprehensive multidisciplinary consultation evaluation remotely, using specialized video equipment.

We will closely follow wellness and positive quality of life outcomes, reduction of psychiatric symptoms and challenging behaviors, but also the cost of care. We believe that our high-risk patients will experience fewer intrusive and expensive care outcomes (fewer ED visits and inpatient hospitalizations), including patients who have a recent history of multiple ED visits for behavioral reasons, recurrent inpatient psychiatric admissions and who are treated with multiple psychoactive medications. If successful, we hope to expand the service and to train others who may wish to use our model to develop similar teams. Ultimately, we hope to improve mental and physical wellness for individuals with ID or ASDs who have mental health disorders and challenging behaviors.

Failure to Identify and Treat Medical Problems in Patients with ID

Why are medical problems that are simple to identify and treat in most people, missed in patients with ID? First, medical causes for agitated behavior may frequently be missed because people with ID are poor reporters of their own health problems. In most cases, the history of the present illness must come from caregivers or family members rather than the patient him or herself. Unless caregivers are asked very specific questions, they may not realize what information is most important to share with the doctor.

Another reason medical problems may be missed in patients with ID is

that the initial picture can be very confusing. It has been noted by experts that physical distress (caused by non-psychiatric medical problems) can provoke changes in mood, mental status and behavior in people with ID (1). In fact people with ID will appear moody, labile, irritable, or tired and engage in more of their usual problem behaviors as a general sign that “something is wrong.” These manifestations of distress may occur for a variety of reasons, because people with ID often have a restricted behavioral repertoire.

Unfortunately, the above described tendencies may mean that an individual with ID who appears agitated will first be brought to see a mental health professional, and may even have multiple psychoactive medication treatment trials, urgent psychiatric care in an ER or an inpatient psychiatric admission, before a medical problem that provoked the initial alterations in mood and behavior is finally detected and treated. Pain or acute physical discomfort may serve to “lower the threshold” or “set the occasion for” problem behaviors (1). The pain or discomfort of an unrecognized health problem may be missed not only because patients with ID often fail to clearly describe their internal experiences, but because the outward signs all seem “psychiatric.”

The individual and societal cost of missing medical causes of behavioral distress in people with ID could be very high. In our pilot research (see below), we found over 40% of people admitted to a specialized inpatient psychiatric unit serving only individuals with ID were diagnosed with a non-psychiatric medical cause for the index episode leading to the stay. Stays are costly and highly disruptive to the lives of these patients, who frequently have great difficulty coping with alterations in daily routines. Many patients end up on long term, multidrug psychoactive medication treatments that might be avoided if medical problems were detected and treated in a timely way. We conservatively estimated that if half of our patients with medical causes for psychiatric admission had been diverted from inpatient care, savings over a two-year period could reach as much as 1 million dollars. (A bed day costs approximately \$1,600.00 for n =

40 patients who would consume an average of 18 inpatient bed days = approximately \$1,152,000.00. Estimating additional outpatient care to be an average of \$5000.00 per person per year, for n= 40, this total would be \$200,000.00) (2).

What medical problems affect psychiatric patients with ID?

Specific health problems identified as causing or worsening behavioral problems in people with ID include ear infections, premenstrual pain, seizures and GI distress (3,4,5,6). In our research, we found constipation and GI disorders such as gastro-esophageal reflux, skin infections, dental pain, sedation and stiffness from medications were all common causes of distress that, on the surface, looked like “psychiatric” problems.

Recent Trends in Psychoactive Medication Treatment of People with ID

Recent reports suggest that people with ID may increasingly receive treatment with multi-drug regimens (7,8). Most people with ID are referred for acute mental health care when they display aggressive behaviors, and their pharmacotherapy is often aimed at its reduction (9). This is unlike most psychiatrically treated individuals for whom pharmacotherapy is overwhelmingly aimed at the amelioration of symptoms of Axis I psychiatric syndromes. Despite expert consensus that all efforts should first be made to identify any acute psychiatric conditions, and that treatment using various modalities in combination is preferred, more and more individuals with ID may be getting medication as the primary approach to their disruptive behaviors (10,11). Of special concern is the limited investigation of side effects and adverse drug events (ADEs) experienced by people with ID (12). This is especially worrisome because people with ID may not accurately complain, or may not complain at all, when suffering from distressing or even dangerous side effects. Individuals with ID rarely control their own pharmacotherapy (10). Most often, decisions are made by others to continue medications or add medications, and whether or not any apparent side effects are “well tolerated.”

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Though pharmacologic interventions may reduce rates of targeted problem behaviors in the short-term, troubling side effects may eventually provoke apparent "relapse" and prompt the introduction of more medications. Recent studies reveal high rates of psychoactive medication treatment of people with ID. The Center for Developmental Disabilities Evaluation and Research (13) reviewed Medicaid prescriptions to document the prevalence of psychotropic medication use in 16,212 adults with ID who received services paid by the Department of Developmental Services in Massachusetts. Over 60% of consumers were prescribed psychoactive medications; 47% when excluding anti-epilepsy medications. (It was not possible to determine who was treated for epilepsy or other medical conditions alone, and who received these medications for psychiatric indications). Only 27% of consumers did not receive any psychoactive medication during the one month study period. Langworthy-Lam, Aman, and Van Bourgondien (14) reported that 45.7% of children with autism were taking psychotropic drugs in their sample of over 700 children. They concluded that individuals with autism are a "highly medicated group." Lott and colleagues (7) examined pharmacy records of 2344 individuals with ID over a 17-month period and reported that 52% of all prescriptions written during the study period were for psychoactive medications, and that 62% of individuals were prescribed two or more such agents.

Several investigators have reported that psychoactive medication use is predicted by disruptive or aggressive behaviors in people with ID (8,9) though few studies discuss rates or risk factors for ADEs. Valdovinos and colleagues (12) found that the frequency of medication changes correlated with number of possible side effects. They speculated that having frequent medication adjustments might actually provoke more ADEs. Deb and colleagues (15) conducted a comprehensive review of the literature regarding the effectiveness of antipsychotic

medication management of behavior problems in adults with ID. A number of studies have reported improved behavior when these agents are used in patients with ID. However, high rates of ADEs were found including weight gain, sedation, withdrawal dyskinesias, other Parkinsonian symptoms and constipation. A new very promising tool called The MEDs has been developed by John Matson and colleagues (16), and may be used to help improved side effect detection.

Patients with ID treated with psychoactive medications may experience uncomfortable or distressing side effects, but their altered mood and behavior may then be seen as a worsening of their mental health problem, sometimes prompting the addition of yet more medications. Increased detection of side effects that cause discomfort and distress could potentially improve behavioral outcomes for patients with ID treated with psychoactive medications.

Summary

People with ID are often referred for psychiatric care because of aggressive and disruptive behaviors. We strongly suspect that missed medical problems may be one significant factor contributing to their behavioral decompensations. If we can increase detection rates for medical problems, behavioral outcomes for patients with ID may be improved, unnecessary and costly interventions avoided, and quality of life enhanced.

In our experience with hundreds of psychiatric inpatients with ID, simple interventions used to alleviate medical problems or side effects, were frequently associated with dramatic reductions in irritability, agitation and aggression. The cost of missing these problems in people with ID referred for psychiatric care is likely high, both in human suffering and in terms of health care expenses. When the real source of distress is missed, patients not only continue to suffer, but their problems may inadvertently be compounded by the addition of inappropriate and ineffective treatments (i.e. adding psychoactive medications). Patients with unresolved sources of distress may also receive more costly and disruptive

acute care (ER visits and hospital admissions). The solutions are not complex. Multidisciplinary coordinated and collaborative care models include time for doctors to work together with other professionals, a model long supported by the Autism Treatment Network. And, it works!

About the Author

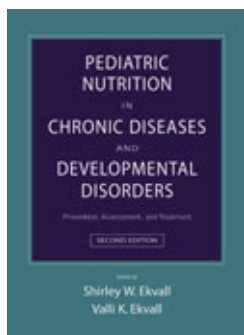
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Self-Efficacy and Nutrition: Promoting Behavior Change in Substance Abuse Recovery

By David A Wiss, CPT



Introduction

The General Self-Efficacy Scale (GSES) was developed in Germany in 1979 and has been translated for use in 33 different languages. It was created to assess perceived self-efficacy as a predictive measure of one's ability to cope with everyday obstacles and adapt to stressful life events (1). An individual's perceived self-efficacy reflects degree of self-belief in their ability to perform difficult tasks or cope with adversity. According to Schwarzer (2), perceived self-efficacy is an operative construct directly related to past and future behavior and is therefore clinically relevant to facilitate behavior change. Other health-specific self-efficacy scales have also been developed including the Nutrition Self-Efficacy Scale (NSES), the Alcohol Abstinence Self-Efficacy Scale (AASES) and the Physical Exercise Self-Efficacy Scale (PESES).

Measurement of self-efficacy has been used to predict relapse in substance abuse patients. Using an adapted version of the AASES for drugs and alcohol, investigators found their simple measure of self-efficacy to be a significant predictor of relapse, superior to a well-established 20-item measure of self-efficacy

(3). If recovery from substance abuse (as measured by abstinence) is correlated with perceived self-efficacy, one of the goals of treatment should be to increase the general self-efficacy of patients. If an alcoholic/addict has a long record of disappointment and failed treatment attempts, the process of improving self-efficacy can be difficult requiring months or years of sustained effort. A strategy that incorporates an exercise program and healthful dietary strategies may help patients to slowly create a new paradigm by rebuilding their self-belief system one action at a time. Conversely, lingering self-doubt can inhibit plans for abstinence and diminish hope for recovery.

Self-Efficacy and Nutrition

The Eating Self-Efficacy Scale (ESES) was developed in 1986 to assess an individual's likelihood of encountering difficulty with controlling overeating in a variety of settings (4). The Nutrition Self-Efficacy Scale (NSES) established the premise that self-confident clients with a higher sense of self-efficacy will be more responsive to nutrition interventions (5). Using a 4-point Likert scale ranging from (1) *very uncertain* to (4) *very certain*, the NSES asks "how certain are you that you could overcome the following barriers?" Questions relate to

the practice of sticking to healthful foods under a variety of circumstances, and can therefore be useful for dietitians in counseling.

In a study of adolescents at six alternative high schools (where students typically have higher rates of risky health behaviors including less healthy dietary practices), subjects reporting higher self-efficacy had fewer perceived barriers and higher fruit/vegetable intake (6). The authors suggest that by addressing the perceived barriers, self-efficacy for making healthy food choices is likely to increase. Richert et al. (7) found that if a person lacks self-efficacy, the act of planning often fails to transform intentions into behavior, particularly for fruit and vegetable consumption. The authors suggest that individuals with a very low self-efficacy should gain more confidence in their ability to change prior to any targeted behavioral interventions, beginning with small steps.

Discussion

According to Schwarzer and Renner (5), approaches to increase self-efficacy are optimized in conjunction with general lifestyle changes, including exercise and new social support systems. When social and environmental support systems are in place, making healthful

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choices becomes possible and self-efficacy has an opportunity to improve (6). Nutrition interventions in substance abuse treatment can focus on rebuilding self-efficacy by creating realistic nutrition goals each week. An example would be the consumption of one vegetable that has not been eaten within the last year. Other attainable goals could be the consumption of yogurt once per day, or a commitment to replace sweetened beverages with water once each day. As self-efficacy improves and nutrition goals continue to progress, some individuals may become interested in setting exercise goals. Coupling exercise goals with nutrition goals can be very effective, such as rewarding oneself with a brownie and milk for increasing the frequency, duration, or intensity level of a training regimen. Patients should be offered affirmations for their accomplishments, being reminded that behavior change is possible regardless of present circumstances and despite previous track record.

There is an ongoing need for dietitians to promote healthful dietary practices including regular consumption of

fruits/vegetables in substance abuse treatment settings. With nutrition education, individual counseling, and exposure to fresh whole foods and exercise, individuals in recovery may increase their self-efficacy in making healthy lifestyle choices. Increased self-efficacy in relation to nutrition may translate into increased self-efficacy regarding abstinence from alcohol and drugs. Nutrition alone is insufficient to keep an alcoholic/addict sober, and self-reported perceptions of self-efficacy may not predict long-term abstinence. However, nutrition can be a vital ingredient in the recipe for behavior change. Diet and exercise are crucial components in the development of an alternative pathway that reflects self-care and a commitment to staying sober. Measurements of self-efficacy can be very useful when promoting behavior change throughout recovery from substance abuse. Behavioral Health Nutrition (BHN) dietitians are encouraged to utilize these tools, intervene on this population, and help to establish evidence-based guidelines.

About the Author

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Student Corner:

A Place for Eating Disorders within Attachment Theory's Frame

By Kelsey N. Wallour, BSFCS

"They turn to food instead to give them the pleasure they once got from singing. And the relationship with food becomes the most important relationship in their lives..." (1)

Attachment theory finds its origins in the work of John Bowlby who, with the assistance of Mary Ainsworth, proceeded to completely restructure the understanding of primary caregiver-child bonds (2). Only in recent decades has the concept been incorporated into research focused on development and treatment of eating disorders (EDs). When considering EDs as a reflection of issues within the entire family system, one can begin to understand how early attachment insecurities can profoundly impact pathology and treatment of the disease (3). Even for people without an

ED, early attachment experiences set the "schemata" for, and perceived effectiveness in, all future interpersonal interactions and relationships including those with food (4). Ward, et al. describes the attachment to the primary caregiver and food as both "unbearably intrusive and vitally necessary" (3).

Initial attachments influence future cognitive, emotional, and behavioral experiences, and may produce distorted perceptions of the external environment in the process (5). While there are three main categories of attachment patterns: secure, avoidant, and anxious, many measures recognize the sundry facets within these areas such as: affect intolerance, interpersonal problems, low self-esteem, and clinical perfectionism (4). Attachment

styles tend to be an enduring personality factor that increase susceptibility to societal messages that prey on individual's insecurities (6). When personal identity is highly dependent on external sources, the potent fear of rejection from others only exacerbates a desperate need for approval and high body dissatisfaction (7). Very few individuals with EDs are securely attached, which leads to the "push-pull strategy" of vacillating between commitment to recovery and denying the need for specialized care (8).

Secure Attachment

This method is marked by autonomy and abilities such as effectively regulating affect, obtaining support from external sources, and actively seeking

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intimacy in relationships (4). This security prevents against unnecessary stress and anxiety, and fosters a healthy sense of self-efficacy (5). Unfortunately, this secure attachment is not what most registered dietitians (RDs) in the EDs field initially experience, since insecure attachment is a noted characteristic of the majority of patients with EDs.

Avoidant Attachment

The avoidant patient presents with a devaluing and cynical view, resulting from previous negative attachment experiences expecting that needs will be neglected and rejection likely. Over time, the attachment systems were "deactivated," and emotions down-regulated to prevent invalidation (5,4). Due to the client's low coherence of mind and physiological malnourishment and/or instability, treatment providers often experience some difficulty in accessing childhood attachment memories and experiences (4).

Tasca, et al. postulate that avoidant attachments are more likely to be found in patients with the restricting subtype of anorexia nervosa, but caution against assumptions based on a diagnoses (4). It is interesting to note that the restricting patient's interaction with food is also avoidant in nature, and through this style they may attempt to down-play the severity of experienced psychopathology. Their overwhelming desire to elude emotions and feelings of fullness can introduce difficulties such as adherence to treatment and/or interacting in a group setting. Despite the avoidant style, these individuals have enormous potential for reflective functioning and awareness, although others may initially feel they are overly critical and aloof (4).

Anxious Attachment

The anxious patient's interpersonal expectations tend to be defined by unreliable and unpredictable attachment figures in the past. The individual will often come across as "needy" because they seek constant validation from external sources (5). In contrast to the avoidant style, these patients con-

stantly mull over previous unpleasant attachment experiences and memories, which maintains their agitated state. Due to a preoccupied internal dialogue, these individuals often have difficulty recognizing the needs and affects of others (4).

Research indicates that higher levels of attachment anxiety increase risk for severe ED manifestations and adverse treatment outcomes. Anxious attachment patterns are more likely to occur in patients with bulimic symptoms or binge eating disorder, due to personality interactions and the relationship with food. Hyperactivation of emotions and constant perceptions of relational stress can lead to a high state of reactivity, and attempts at coping such as bingeing or engaging in the binge-purge cycle (4,5). In this population, group therapy has the capacity to provide a safe and validating environment, which increases the likelihood of retaining the client in treatment (5).

A Family Matter

Insecure attachment patterns, much like disordered eating, are transgenerational, formed very early in life, and serve as a maladaptive coping skill (9). Thus, the patient's distorted beliefs of being unworthy of love and friendship are a red flag for family dysfunction and adverse experiences with primary caregivers (6). Further investigation might find a parent with an ED, enmeshment, triangulation, hostility, mistrust, an invalidating emotional atmosphere, some form of abuse, or markedly overprotective parenting styles (10). Whether innocent or malicious, comments and behaviors from primary attachment figures may figure prominently in the development and perpetuation of an ED. As Bulik points out in *The Woman in the Mirror*, a child's self-concept is initially shaped by others' perceptions simply because their brain has not yet developed to think abstractly or challenge a superior's expectations. Unfortunately, these early, deep-seated beliefs "get planted early, grow wild, and never get pruned" (11). Furthermore, by avoiding the issues within the family system, insecure attachment blue-

prints are prolonged and bequeathed to the next generation (12).

Discussion

It is not unusual to find that a patient seems both compulsively self-reliant and compulsively care-seeking, which can be a challenge for treatment providers (3). But, by using the attachment framework, one can recognize traits of ambivalence ED sufferers may hold towards food, treatment, recovery, and with their self-concept. Nutrition counseling and the role of the RD are vital components of ED recovery. Registered dietitians can explore how current relationships, with people and food, are a reflection of past attachment patterns, and could be a barrier to freedom from disordered eating. Registered dietitians have a unique opportunity to plant the seeds for healthy attachment - a relationship without abuse, abandonment, and inconsistency (5). This aspect is within the RD's scope of practice because the maladaptive method of relating has severely impacted food intake, the client's relationship with food, and is a barrier to full recovery (13). The deep work of supporting the client to create healthy attachments will lie with the therapist. However all treatment team members can provide positive experiences to begin the reformation of secure connections as the client moves toward stability and health.

In addition to the relational role, the RD is primarily responsible for moving the client toward a more secure attachment with food. Dallos, et al. suggest that "mealtimes encapsulated and reaffirmed the emotional atmosphere of the family," which creates a complex puzzle for the RD to examine (12). By constantly reminding the patient that food is an object that will not reject or triangulate, but rather provides nourishment and care, trust can be developed with both food and the dietitian.

About the Author

Kelsey N. Wallour, BSFCS is part of the BHN Student Committee and a MS/Dietetic Intern student at the University of Tennessee in Knoxville.

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Nutrition Counseling: Common Mistakes

By Molly Kellogg, RD, LCSW

In the context of nutrition counseling, many common conversational patterns can be counterproductive. Interactions that work well with family or friends do not always transfer effectively into our work. Here are some common mistakes

and improved approaches that may assist you in producing more favorable outcomes in your nutrition interventions.

- The use of **imperative language**, such as “You have to...” or “You ought to...” may bring up resistance. Instead, use factual language, such as “This is the amount of rice that contains 15 grams of carbohydrate.”
- **Avoid sharing too much** about yourself. The counseling relationship is not about you—it is about the client and his or her needs.
- **Before launching into advice**, find out what the client already knows about this topic and what they want from you. Proceeding with instruction before obtaining permission, may cause your client to tune you out. Asking permission might sound like, “I have some suggestions for how to handle that. Would you like to hear them?” or “Your doctor has asked me to tell you about the way of eating that will help you feel better. Is this the time for me to share it?”
- Don’t miss opportunities to **reflect change talk**, such as “I want to have more energy,” and “I might be able to walk at lunch.” When we take a moment to reflect back in our own words the client’s motivations and plans, we make change more likely.
- **Avoid arguing with or confronting** a client who is resisting. If you say, “But your doctor says you should not exercise at this weight,” the client’s resistance may be heightened. Instead, roll with it. For example, “This rule of no physical activity until your weight is in a healthy range is really hard on you.”
- **Ask for help** when you feel stuck with a particular client or when you have a strong emotional response. Talking with a colleague or supervisor may provide options that had not occurred to you. Someone else can help you set aside responses that may be interfering with effective client care. Seeking help also makes burnout less likely.
- Try not to **do everything yourself**. Collaborate with other professionals, make a referral to a specialized dietitian, or consider whether additional treatment is needed. A specialist may be needed specially when you suspect depression or other psychiatric concern.
- **Are you working harder than the client?** If you notice this, shift to open-ended questions to elicit what the client needs from you, ideas he or she has, and what they can see themselves doing.
- Remember, you don’t need to **fit everything in one visit**. If you know you will not be able to cover everything, tell the client up front and decide together what will be put off for a future visit or covered in printed material.
- **Acknowledge client’s ambivalence** toward making the changes you are recommending. Permanent change often means working through ambivalence. When you address it, it will be easier to work through the process.
- **Opening a session with a series of closed questions** encourages a passive role for the client and elicits resistance. Instead, begin with a bit of small talk and then an open-ended question, such as “What do you most need from me today?” Throughout the session, use as many open-ended questions as possible.

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Nutrition Counseling...

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- Don't miss opportunities to **affirm clients' efforts and strengths** even if they seem small. Offer affirmations, such as "You are well informed about the role of food in managing your condition," or "You are someone who sticks with something even when it's frustrating." Affirmations have been shown to increase the likelihood of further positive changes.
- There is **always room for improvement**—don't assume you are done developing your counseling competence.

Pick one specific skill to practice for a week or so, review how it went and repeat with another skill, over and over.

About the Author

Molly Kellogg, RD, LCSW, is the author of the free email series "Counseling Tips for Nutrition Therapists," available at www.mollykellogg.com, and two Practice Workbooks. She is a member of the Motivational Interviewing Network of Trainers and served on the Nutrition Counseling Workgroup of ADA's Evidence Analysis Library. She trains health professionals around the country in her 12-hour "Counseling Intensive" workshops.

The Role of an RD within an Interdisciplinary Team in the Treatment of Eating Disorders:

An overview of "Eating Disorders 411: The Guiding Principles" presented by Charlotte Caperton-Kilburn, MS, RD, CSSD, LD
Presentation Summary by Kaci Pleasants, MS, Medical University of South Carolina Dietetic Intern 2011-2012

"Genetics holds the gun, society pulls the trigger" proclaimed Charlotte Caperton-Kilburn, MS, RD, CSSD, LDN as she discussed the foundation of eating disorders (EDs) during the 2012 South Carolina Dietetic Association Annual meeting in Charleston, SC. Caperton-Kilburn stated the causes of EDs, "the 3 Ds", include body dissatisfaction arising from social media, extreme dieting, and an irrational drive for thinness. These causes arise from genetic, environmental, and emotional (stress) factors, which require treatment by an interdisciplinary team. So where exactly do registered dietitians fall in the treatment and management of EDs?

Assessment

RDs must conduct a standard nutrition assessment including: anthropometric, biochemical, behavioral-environmental, and client social/medical history. However, excellent detective skills and knowing the right questions to ask is the most important factor when assessing a patient with ED. Great tools for determining if a patient has disordered eating or an ED include: Utilize Disordered Eating Screen, SCOFF (a brief ED screen) or Eating Attitudes Test (EAT-26) as screening tools.

Intervention

Treating patients with EDs is a time commitment because RDs must take baby steps towards nutrition goals and

normalizing eating habits. After determining the patient's healthy weight range and nutrient needs, the RD should formulate small initial goals and advance as tolerated by the patient. Initial weight goal must be a BMI of 19 or higher and calorie intake goals should begin with an additional ~500 kcals/week. Diet quality is important in meal planning; however, this may not be relevant in patients with EDs as you may have to work with whatever the patient will eat. Education is essential when treating EDs. Not only must the RD teach the patient ways to change food, exercise and weight related behaviors, they must also educate patients on normal hunger/fullness cues and normalized food intake patterns. Incorporating the family and other caregivers in the treatment and recovery process is imperative!

Monitor and Evaluation

RDs should monitor nutrient intake, laboratory data (risk of re-feeding syndrome), weight gain, and food intake to maintain goal weight. It is important to communicate patients' progress with the team and make adjustments to the treatment plan accordingly.

In conclusion, the patient must be ready to change in order to be treated for an ED. A RD is just one member of an interdisciplinary team consisting of a psychologist, psychiatrist, physician, and family in treating a patient with ED. It is important for all members of the

team to support health-centered behaviors versus weight-centered behaviors and to gain the patients trust by building rapport with the patient and family.

For more information on the treatment and management of ED's:

1. Position of the American Dietetic Association: Nutrition Intervention in the Treatment of Eating Disorders *J Am Diet Assoc.* 2011; 111: 1236-1241.
2. American Dietetic Association practice paper: Nutrition Intervention in the Treatment of EDs, Aug. 2011; <http://www.eatright.org/about/content.aspx?id=8386>
3. American Dietetic Association: Standards of Practice and Performance for Registered Dietitians (Competent, Proficient, and Expert) in Disordered Eating and Eating Disorders (DE and ED) 2011; 111: 1242-1249.e37

This presentation was made possible in part by a Speaker Stipend Award from BHN. This valuable member service provides funding for speakers who present on one of BHN's four practice areas. BHN members can apply for up to \$400 to support speakers at conferences, meetings, or community events. More information can be found on the BHN website: <http://www.bhndpg.org/membership.asp>.



The House of Delegates (HOD) met on October 5th - 6th prior to the official start of the 2012 Food and

Nutrition Conference and Exposition (FNCE). It was an exciting experience for me since I was attending the HOD for the first time as the BHN-DPG delegate. I was a delegate in the past and an area coordinator when the HOD functioned in a very different way than it does today. There is only one face to face meeting per year at FNCE and a virtual meeting in the spring with everything conducted "online".

Prior to FNCE all of the delegates received multiple documents and reports on what is known as the Academy HOD Platform. Our charge as delegate was to read, review, share with our constituents, and respond. The role of the HOD is to govern the profession and develop policy on major professional issues including the future of education. There is an elected 6 member leadership team that takes responsibility for providing direction, focus and structure to the HOD deliberations. This year's leader of the team is Becky Dorner, RD, LD, Speaker of the House. Four issues were the discussion topics of this year's HOD meeting:

1. The Visioning Report—Moving Forward- A vision for education, credentialing and practice. This was a dialogue session on October 5, no voting to occur.
2. Public Health and Community Nutrition in dietetics.
3. Update on the Quality Management Committee Comprehensive Scope of Practice Resources.
4. Motions related to By-laws amendments involving the Accreditation Council for Education in Nutrition and Dietetics (ACEND) and the Council on Dietetic Registration (CDR). These motions better define the role and authority of ACEND and CDR.

The Visioning Report involves nine recommendations involving education at the undergraduate level, promoting

BHN-DPG Delegate's Report

Harriet H. Cloud, MS, RD

an advanced degree for the RD, evaluating the DTR credential, ensuring that graduate programs provide integration of academic coursework and supervised practice into a seamless program. There was a great deal of discussion about the recommendations of the report and all members are encouraged to read the online version of the report. It can be found on the Academy website, www.eatright.org/hod.

The Public Health and Community Nutrition dialogue session was an outgrowth of the Public Health Taskforce appointed to address a changing health care model of prevention with a shift in dietetics practice from the clinical to preventive. The discussion during the HOD session emphasized the importance of enabling Academy members to recognize, prepare for and seize opportunities in the Public Health and Community arena.

Following the meeting, HOD delegates were presented with four motions on which to vote related to the issues:

1. Be it resolved that the HOD establish a Public Health Nutrition/Community Nutrition Task Force charged to develop a plan for members and the Academy based on the HOD dialogue session, along with identifying gaps to be filled. The plan will

provide direction on how members can prepare to become active in public health/community nutrition and the role the Academy can play to assist members in this effort. The task force will be requested to submit a plan by April 1, 2013 for approval. This motion passed.

2. Be it resolved that the HOD approves the 2012 Comprehensive Scope of Practice Resources for inclusion in all Academy documents and publications and for implementation by Academy members and credentialed practitioners by June, 2013. This motion passed.
3. Both by-laws changes passed.
4. The Visioning Report did not require a vote.

It was a privilege to represent BHNDPG at this meeting of the HOD. From our membership, Nina Crowley and Milton Stokes also attended the meeting. Milton is delegate elect for the Pennsylvania Dietetic Association. On November 28, the three of us presented a Webinar on the HOD meeting. It is our goal to keep all BHN-DPG members aware of the issues of the Academy addressed by the HOD and involved in providing advice and suggestions for their implementation.

Harriet Cloud, MS, RD, FADA is First Elected HOD Delegate for BHN

Harriet Cloud, MS, RD, FADA, a founding member of Behavior Health Nutrition Dietetic Practice Group (formerly DDPD), has waited 25 years to see DPG's represented in the House of Delegates. Around 1987, while chair of the Academy's council on practice (COP) which included members from DPGs, Harriet asked "Why do we not consider bringing the DPGs into the House of Delegates?" and made a motion that a committee be appointed to study the feasibility of having delegates for the DPG's. It was voted down and Harriet moved on in her dietetics career. The conversation continued in the COP and the DPGs the following year, but didn't move forward. Eventually around 2008, newly elected professional issues delegates were asked to find a DPG to represent during their term. Those professional issues delegates represented one or more of the DPGs until on a rotation basis, DPGs began to elect Delegates from their DPG membership to the HOD.

On June 1, 2012, BHN's first elected delegate took office - that delegate is Harriet Cloud. On October 4, 2012, Harriet celebrated her 90th birthday while attending the 2012 opening session of the Fall House of Delegates meeting in Philadelphia with a rousing serenade of "Happy Birthday" from fellow delegates. She also received special recognition at the BHN awards reception. Harriet is a firm believer that "with eating right and (exercising) patience, one gets through this life." A trailblazer for all dietitians, congratulations and thank you Harriet for your vision 25 years ago!

Congratulations to the Awardees Honored at the 2012 BHN Awards Breakfast During FNCE in Philadelphia

BHN Past Chair Charlotte Caperton-Kilburn, MS, RD, CSSD, LDN presented awards to the following BHN members:

Distinguished Member Award

Diane Spear, MS, RD, LD a 35 plus year member of AND has a history of work with the BHN DPG as well as the Oklahoma State Association of the Academy of Nutrition and Dietetics and is known by all BHN members as the newsletter editor. As described in her nomination "Diane has done a tremendous amount of work over the years for BHN serving EC positions and the excellent BHN newsletter that she puts together each year." She was co-chair of the workgroup for the recently published IDD SOP/SOPP, to name of few of the things Diane has done for BHN. She has worked for the Oklahoma Department of Human Services in the Developmental Disabilities Services Division for the past 23 years serving as a Nutrition Services Lead Professional for the last 18 years. This work led her to work in other states as a consultant to their programs for Developmental Disabled individuals. Through Diane's leadership in Oklahoma a registered dietitian must be a part of the Department of Human Services. Diane is a past HOD Delegate for the state of Oklahoma and has won numerous awards there. She was a contributor to the Nutrition Care Process Model in 2001. In 1990, she served on the DDPD DPG Taskforce for Development of Standards of Practice. Diane has presented at the local and state level and served as a preceptor for Oklahoma State University and the Tulsa Technology Center. Diane has led the way for dietitians at the district, state and national levels through her leadership involvement.

Excellence in Practice Award Eating Disorders

Eileen Stellefson Myers, MPH, RD, LDN, FADA has a 30-year history of contributing to the field of eating disorders. Through her volunteer work, publications and presentations she has educated thousands, and has made significant contributions. Eileen was a



From left: Diane Spear, MS, RD, LD; Eileen Stellefson Myers, MPH, RD, LDN, FADA; Lee Shelly Wallace, MS, RD, LDN, FADA.

co-author of the 2001 Position Paper: Nutrition intervention in the treatment of anorexia, bulimia nervosa and eating disorders. She reviewed and revised the position paper on eating disorders published in 2011 and co-authored the SOP/SOPP for eating disorders for RDs published in August 2011. Eileen assisted with the first edition of the AND nutrition care manual related to disordered eating. Throughout her career in South Carolina, Eileen served on committees for the local and state dietetic association. From 1993-94 she was President of the Charleston-Trident Dietetic Association. Eileen's most noted work is the manual she wrote for professionals working in the field of eating disorders. First published in 1999, and most recently in 2006, "Winning the War Within: Nutrition Therapy for Clients with Eating Disorders" supports dietitians in their use of cognitive behavioral therapy and motivational interviewing. In 2007 Eileen authored the chapter on eating disorders for Nutrition Therapy Advanced Counseling Skills, published

by Lippincott, Williams and Wilkins. She has a passion for teaching and has mentored numerous students including: dietetic students, dietetic interns, medical and nurse midwifery students, psychology interns and psychiatry residents. Through her private practice Eileen has counseled and helped hundreds of clients with eating disorders have a healthier relationship with food. In her current role, Eileen works with nurse practitioners teaching them effective ways to counsel patients regarding weight and eating behaviors.

Excellence in Practice Award IDD

Lee Shelly Wallace, MS, RD, LDN, FADA has worked with children and adults with developmental disabilities for over 25 years, first in the community and now at the Boling Center. She is currently the Chief of Nutrition and the Coordinator of the Inborn Errors of Metabolism Team at the Boling Center for Developmental Disabilities, in the College of Medicine at The University of Tennessee Health Science Center in Memphis. She has taught nutrition as

Congratulations to the Awardees...

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adjunct faculty at both two-year and four-year colleges. She has been a member and an officer in both the Behavioral Health Nutrition and the Pediatric Nutrition dietetic practice groups of the Academy of Nutrition and Dietetics. She is a member of Genetic Metabolic Dietitians International and has participated in workgroups and program planning. Lee was a co-author of the 2010 Position Paper: Providing Nutrition Services for People with Developmental Disabilities and Special Health Care Needs and one of 8 members working on the recently published IDD SOP/SOPP. Lee is a past chair of BHN, IDD resource professional and newsletter editor of BHN. She is currently working on her dissertation as a doctoral candidate with a concentration in Higher and Adult Education at the University of Memphis.

Excellence in Practice Award Mental Illness

Kathryn Russell, MS, RD Owner of Nutrition is Central specializes in providing food and nutrition consulting to persons living with psychiatric illnesses and to a variety of health care settings and the food service industry. She has 23 years of specialization in Behavioral Health Nutrition issues. As well as long-term care facilities, assisted living centers, rehabilitation centers, community mental health centers, adult foster care and group homes for the mentally impaired. Kathy has been the Director of Food and Nutrition Services at The Walther P Reuther Psychiatric Hospital in Westland, Michigan. She is a Past Chair of BHN and Membership Chair of BHN. She was Instrumental in creating and developing the BHN Website. Kathy was a workgroup member and contributing author of the 2006 Psychiatric Nutrition Therapy: A resource guide for dietetic professionals practicing in behavioral health care. She has served as an Advisor, Chair, and various other positions in the Michigan Consultant Dietitians. In 2012 Kathy published her book, "Your Child and Eosinophilic Esophagitis: Dietary Guidance That's Easy to Swallow"

In the BHN Pipeline!

Emotional Brain Training Certification

Emerging understandings of neuroplasticity have led to the development of emotional brain training (EBT), which provides registered dietitians with a novel, science-based clinical practice. Nutrition professionals with strong psychological training and who embody joy participate in EBT certification training, and bring their educational and clinical skills to empower clients to rewire their emotional brains in favor of homeostatic states and wellbeing. Counseling on sleep, physical activity, meditation and anti-inflammatory foods is emphasized. The goal is not short-term behavior change, but a change in self-regulatory processing and sustained improvements in the range of emotional, cognitive and behavioral variables. The Institute for Health Solutions offers the EBT Professional Certification Program for health professionals, including the RD.

<http://www.ebt.org/pro-cert>

Prenatal Down Syndrome Booklet Now Available Digitally

Understanding a Down Syndrome Diagnosis is now available in English and Spanish for download to iPads, iPhones and Kindle readers. This booklet is designed to provide expectant parents and their medical providers with current and accurate information about Down syndrome. It is the only prenatal resource that has been reviewed by representatives of the national medical and Down syndrome organizations. To download a copy, go to www.lettercase.org. Print copies may be available to medical professionals by making a request at the website.

www.lettercase.org

Census: More Americans Have Disabilities

As the U.S. marks the 22nd anniversary of the Americans with Disabilities Act, new Census data indicates that the number of people with disabilities is on the rise. In a report released July 2012, the federal agency found that 56.7 million people had a disability in 2010, an increase of 2.2 million since 2005. Despite the growth in disability prevalence, however, the percentage of people with impairments remained relatively unchanged at 18.7 percent, accounting for roughly 1 in 5 Americans. About 1.2 million adults had an intellectual disability, according to the report. Meanwhile, some 944,000 adults had other developmental disabilities including autism and cerebral palsy. Among children, the Census found that 1.7 million kids had an intellectual or developmental condition. The new Census data, according to officials, marks the first time since 2005 that the agency has offered estimates and analysis on the population of Americans with disabilities. Numerous agencies including the Social Security Administration, Centers for Medicare and Medicaid Services and the Administration on Aging rely on Census data in their planning.

Counseling Tips for Nutrition Therapists

Developing effective nutrition counseling techniques are strategically outlined in Molly Kellogg's new book, Counseling Tips for Nutrition Therapists Practice Workbook, Volume 2, a popular continuation of her original Volume 1. Both workbooks are packed with counseling tips that RDs in almost any practice setting will find useful, practical, and insightful. The information contained in these workbooks provide guidance on some of the most common and some of the toughest issues RDs will encounter with nutrition counseling.

<http://www.mollykellogg.com/counselingtipsvol1.html>

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BHN PUBLICATIONS

The Adult with Intellectual and Developmental Disabilities

This resource tool is designed to provide an overview of nutrition in individuals with intellectual and developmental disabilities. The resource guide is contained on one CD-ROM as a 209 page PDF file. **BHN Member Price: \$25.00**



Psychiatric Nutrition Therapy

This resource guide is intended for anyone working in the 4 practice areas within Behavioral Health Nutrition: mental illness, eating disorders, addictions, and those with intellectual and developmental disabilities who also require psychiatric care. The resource guide is contained on one CD-ROM as a 170-page PDF file. **BHN Member Price: \$25.00**

Nutrition & Addictions

This is a 244-page manual of information about addiction and drugs of abuse, including legal, illegal and pharmaceutical drugs, alcohol, nicotine, caffeine, and more. Patient educational handouts on nutrition and recovery topics are also included. **BHN Member Price: \$18.00**



To order, visit

<http://www.bhndpg.org/publications/index.asp>

NEW! Academy of Nutrition and Dietetics Pocket Guide to Children with Special Health Care and Nutritional Needs

This pocket guide was developed through collaboration of the Behavioral Health Nutrition and Pediatric Nutrition dietetic practice groups of the Academy. This updated version contains the essentials to nutrition management in a comprehensive interdisciplinary approach to medical management of CSHCN. Up to date scientific evidence has been translated by the authors and editors into tables and practice guidelines for dietetic professionals.



To order, visit

<http://www.eatright.org/shop/product.aspx?id=644246>
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