

Celiac Disease and Behavioral Health: An Exploration of the Research

Shannon E. Longhurst, RD, CD

Celiac disease (CD) is estimated to affect 1% of the U.S. population, at the rate of approximately 1:133 persons, with over 95% remaining undiagnosed. Celiac disease is a genetically inherited, autoimmune reaction to the gluten protein found in wheat (gliadin), rye (secalin), and barley (hordein). With ingestion of gluten, the body mistakes the gluten protein as a foreign substance and creates antibodies meant to attack gluten; these antibodies instead attack the lining of the small intestine, damaging the villi and preventing the body from properly absorbing nutrients. The absorptive surface of the small intestines can be reduced from the size of a tennis court to the size of a table or less, markedly reducing the amount of nutrients the body can absorb.

Classic symptoms of CD include GI distress, including steatorrhea, diarrhea, gas, and constipation; weight loss despite adequate intake; anemia (of varying causes); failure to thrive in children, and multiple signs of malnutrition/vitamin deficiencies. More commonly, patients are presenting without symptoms or with only minimal complaints. It is also not uncommon now for a CD client to also be obese; when the body is deprived of nutrients, it often can make a person hungrier and cause them to eat more than they need.

CD may manifest as dermatitis herpetiformis (DH), which is a rash that is typically mirrored on certain areas of the body, such as the knees and elbows. If a person has DH, CD is a definite diagnosis; they are considered sister diseases. In most cases, there are no typical CD symptoms in clients with DH, such as weight loss or GI disturbances. Dapsone is often prescribed to treat the rash, but it is not a cure; the only cure is a gluten-free diet.

It is up to the RD, MD, and other allied health professionals educated on CD and

the gluten-free (GF) diet to recognize the symptoms/possible connections (i.e. other autoimmune disorders, lactose intolerance secondary to damaged villi). Patients should be referred for celiac disease testing, initially a blood panel and if positive, then an intestinal biopsy, which is the gold standard for diagnosis.

The only treatment for CD is a GF lifestyle; this includes not only food choices but watching for cross-contamination and non-food sources of gluten, such as cosmetics and medications. As for the oat "controversy," oats do not contain gluten. However, studies have proven that most commercial brands of oats are contaminated with wheat in the U.S. There are specialty brands of GF oats available that are grown and tested to ensure GF status. It is recommended that newly diagnosed clients do not include oats until a year after all symptoms have cleared to ensure intestinal healing, as some people do have a sensitivity to the protein in oats and may have a reaction. There is no test to determine oat sensitivity, but at this point it is recommended that a person who has CD consume no more than 50g of dry GF oats/day. The addition of oats improves dietary profile and also quality of life. For more details on CD or the GF diet, please contact the author or refer to the references for more details (1, 2, 3). Please note that this article will not address eating disorders. Celiac disease and eating disorders were covered in the Summer 2009 issue of the BHN newsletter. It is common, however, for those vulnerable to eating disorders and CD to use the new restrictions as a way to lose weight, just as "diabulimia" is common in type 1 diabetes. Some clients will purposely eat gluten to lose weight. Be mindful that many clients have both of these conditions and may be at risk for eating disorders. Although autism

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From the Chair

Kathy Russell, MS, RD

What an honor it has been to be the Chair of BHN this year! I have had the opportunity to work with some of the most dedicated and energetic volunteers! Through their efforts BHN has accomplished much for our members. Our newsletters continue to offer high quality, educational articles. We have enjoyed some excellent webinars – and look forward to more. BHN has an increasing fan base on Facebook and you can now follow us on Twitter: @BHNDPG. Participation on the BHN electronic mail list (EML) is active and many questions are answered by our peers who are experts in their areas.

Great news comes from the work group that has been working on the Standards of Practice and Standards of Professional Performance (SOP/SOPP) for Disordered Eating and Eating Disorders! You can be on the watch for these documents to be published sometime in the fall of 2011! Wonderful work has been done by Mary Tholking MEd, RD, LD and her group to get these completed.

While this has been a terrific year for me as Chair, I look forward to the leadership of our incoming Chair, Charlotte Caperton-Kilburn, MS, RD, CSSD, LDN. Charlotte has an energy level that is hard to top! Please join me in welcoming Charlotte and her new Executive Committee whose term of office will begin June 1st. If you are interested in becoming an active participant with BHN make sure to contact Charlotte at nflperformance@yahoo.com. There is plenty of work to be done.

One last thing – the time is almost here to renew our memberships in ADA and the DPGs. I hope that you have found your membership to be a value to your practice and that you will not only renew your membership in BHN, but also encourage your friends and co-workers to join as well!

Yours for good health,
 Kathy Russell, MS, RD

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Application Deadline is June 1, 2011.

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spectrum disorders have also been covered in a previous newsletter (Spring 2009), they will briefly be addressed in terms of CD and the GF diet.

Gluten and Schizophrenia

Celiac disease and schizophrenia are both estimated to affect 1% of the population, though some epidemiologic evidence show higher incidence of CD in schizophrenia. Studies as far back as the 1940s have noted a connection between celiac disease and schizophrenia. During World War II, five countries with a wheat shortage had significantly fewer mental health admissions for schizophrenia; in the U.S., where wheat was a staple food, admissions for schizophrenia increased (4, 5).

One research study found that schizophrenia shares a genetic link to autoimmune disease and the risk of developing an autoimmune disorder is 50% (6). Other studies have mixed results on the prevalence of schizophrenia and CD; some report no association and others show a high association. At this time, an estimated number of individuals with both CD/gluten intolerance and schizophrenia cannot be determined.

A cohort study in Sweden found that pregnant women with undiagnosed CD (which already puts the woman at risk for miscarriage) puts the woman at risk for low- birth weight infants. Low birth weight tends to increase the risk of schizophrenia in male infants with intrauterine retardation to seven times higher than the general population (7).

Studies repeating trials of the GF diet in schizophrenia indicated improvement in some cases and others reported no change. One theory is that the GF diet improves absorption of antipsychotics; these results, however, were based on a trial that involved animals, whereas no human trials have been conducted to test this theory (8). Another hypothesis suggests the GF diet increases exorphins (opioid peptides), which can pass the blood-brain barrier and improve psychiatric symptoms (8).

Some studies have implied that there is a gluten connection in schizophrenia

even if the person tests negative for CD; the anti-gliadin immune response is different and does not involve the tissue transglutaminase or the HLA-DQ2/DQ8, the genetic markers for the potential for CD (not every one with these genes develops CD, but every person with CD has these markers) (9).

An additional study just found that 5.4% of people with schizophrenia have moderate to high levels of tissue transglutaminase antibodies vs. 0.8% of the control group (10). It has been shown that chromosomes in CD (11q23-25 and 2q11-13) overlap with potential schizophrenia regions on the chromosomes (11q22.3-24.1 and 2p12-q22.1) (5). Dickerson, et. al. also concluded that individuals presenting with recent-onset psychosis and with repeated episodes of schizophrenia have increased antibodies to gliadin, but the immune response is different from CD (11). It is also of interest to note that in a study about food allergies in schizophrenic patients compared to their relatives, antibodies to foods were higher in schizophrenic individuals (12).

Another complex problem involves an inborn error of folate metabolism on chromosome 1. When folate is consumed, it is normally reduced to 5-methyltetrahydrofolate (5MTHFR). A deficiency in 5MTHFR can cause a multitude of psychological manifestations, including depression and autism; however, schizophrenia is one of the main psychiatric conditions associated with the deficiency. Bipolar disorder was only significantly found in east Asians who have the 5MTHFR gene, but not in any other populations. Studies involving CD and 5MTHFR concluded that 5MTHFR is poorly absorbed in CD patients (13). It is also common for people with this condition to have IgA deficiency, also associated with CD. Down syndrome, which is highly associated with CD, is related to this deficiency.

Folate participates in the production of serotonin, which is a neurotransmitter involved in mood and affect. In 5MTHFR deficiency, dietary folate/supplements are unmetabolized and compete with L-methylfolate at the blood-brain barrier. The only way to determine if a person has this deficiency is a blood test; treating with a prescription form of folate (L-

methyfolate) can improve many of the symptoms of the above-mentioned conditions. As clients with CD may be poorly absorbing folate at first diagnosis, they should be tested for this metabolic condition before overloading the body with supplemental folate.

Depression and Anxiety

It is estimated that 33% of people with CD suffer from depression (15). This is where the cliché “the chicken and the egg” controversy comes into play. Are people who are undiagnosed dealing with depression and anxiety because of malabsorption leading to chemical imbalances of the neurotransmitters related to tryptophan or because of the unbearable symptoms? It is true that CD and depression can occur independently as a separate condition within the same patient (16).

When looking at the healed patient following the gluten-free diet, depression and anxiety can also occur from changes in social plans and anxiety and stress related to reading food labels and properly planning a gluten-free diet. Family and other social events can be extremely stressful, therefore the patient may choose to avoid these situations completely, leading to feelings of low self-worth/low confidence. This is especially common in the teenage and college age person with CD who wants to conform to their friends, drinking the same beer and eating the same pizza. The registered dietitian can take the lead in helping the patient find food alternatives and ways to deal with social situations.

During time of malabsorption (not just specific to celiac disease), the body cannot convert tryptophan and other monoamine neurotransmitters to serotonin, dopamine, or norepinephrine. Folic acid and vitamin B6 deficiencies also can lead to depression and anxiety. Obviously those of us on the cutting edge of mental health can see that these deficiencies can not only lead to depression and anxiety, but a number of other mental health concerns.

Research on celiac disease and depression/anxiety has found a number of other causes of depression/anxiety in those with celiac disease. One concern

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is deficiency of Alpha-Linolenic Acid (ALA) and Eicosapentaenoic Acid (EPA), which can lead to behavioral disorders (13). According to one study, anxiety, fatigue, and irritability may improve after adolescents follow the gluten-free diet, but depressive symptoms did not decrease in older adults (14). An additional study determined that CD increased the possibility of subsequent depression (3). More research determined that the GF diet alone fails to reduce the number of CD patients who are dually diagnosed with depression (17). Most recommendations indicate that anxiety usually disappears in the absence of symptoms, in spite of subsequent depression (13). Looking at the increasing number of clients who have CD and type 1 diabetes, there is a significantly increased risk of depression (18). A study of adolescents determined that tryptophan/competing amino acids were lower before the gluten-free diet was introduced in adolescents with celiac disease, with a significant increase in the beneficial amino acids (19). A cost/benefit study on psychological support counseling noted increased diet compliance, better sense of well-being, and decreased hospitalization (17). A study attempting to determine the number of celiac patients with social phobia resulted in a 70% rate (20); counseling may improve socialization and reduce fear of gluten while eating out in the public (with reasonable concern about gluten and cross-contamination). A German study found more females had anxiety despite following the GF diet and similar clients should be screened for anxiety (21). Although we cannot make a single recommendation based on this varying information, it is important to remember the possibility of depression, anxiety, or social phobia as barriers to dietary intervention.

Cognitive Dysfunction

According to Libonati et al, who investigated CD and dementia, five patients below the age of 60 with presentation of dementia symptoms were put on a GF diet. This resulted in

improved cognitive function. Trace vitamin deficiencies may be involved, such as niacin, vitamin B6, or thiamine, but more research needs to be conducted in this area (13). Also evident was atrophy in 80% of patients with CD and epilepsy. Response to GF diet may or may not work for the individual patient (13), but the client should continue to follow a GF diet. Looking back at folate metabolism, deficiency can cause calcifications in the brain, leading to confusion, seizures, migraine, and intercranial hypertension. A study of cognitive impairment and CD concluded that there is a possible association between progressive cognitive impairment and CD, and again more studies are needed in this area (22).

Autism Spectrum Disorders, Attention Deficit Hyperactive Disorder, and Developmental Delay

When hearing the term Asperger's, one type of disorder in the autism spectrum, most people think of the intelligent individual with poor socialization skills, not celiac disease. Hans Asperger studied the behavior of 12 children who had CD in 1961 who also had what are now considered the signs/symptoms for the diagnosis of Asperger's; after following a GF diet for two years, these symptoms disappeared. This was the first description of Asperger's syndrome (23). A commonly used but not evidence-based treatment for autism is a GF and casein-free (CF) diet. A study using rabbit anti-gliadin peptides found that some clients with autism produce antibodies against Purkinje cells and gliadin peptides, leading to some of the neurological symptoms in autism (24). Despite the many reports of this diet as the miracle cure, it appears that the response varies individually; science has yet to back up the reason some people respond well to the diet and others don't. A small study of 26 children with autism spectrum disorder was put on a GF, CF diet for 12 months with significant improvements (25). There are many studies available either demonstrating a GF, CF diet helps or does not. A "Specific Carbohydrate" diet has also

been touted by autism support communities to help with autism symptoms. It is known that autoimmune disorders are common in individuals with autism and often have a family history of autoimmune disorders. In the case of autism not responding to sensory and other treatments, the GF, CF diet may help. It is not recommended as the first choice of intervention, as it is very difficult to follow and properly balance this diet. Individuals seeking to try this diet should find an RD who specializes in this particular subject.

Prevalence of ADHD in female patients with untreated CD is approximately 20% and approximately 21% in males with untreated CD vs. only 10.5% in the general population (13). Possible causes include imbalance of neurotransmitters due to malabsorption of nutrients, immunologic factors, or inflammatory responses; ADHD usually improves with the GF diet in clients with CD.

Developmental delay associated with CD is generally related to failure to thrive/malnutrition from gluten exposure and nutrient deficiencies. Prevalence is 15% in individuals with CD and 3.3% vs. controls (13). Clients with developmental delay and CD generally improve on a GF diet, with the exception of epilepsy and ataxia in individuals with the latter conditions (13).

Recommendations

Whether assessing a client with CD or one of the above behavioral health conditions, it is important to consider each as a possibility in addition to the main diagnosis. Nutrition interventions and factors to consider when assessing someone with celiac disease and a behavioral health diagnosis include:

- Test for 5MTHFR deficiency in clients with difficulty absorbing folate and/or have schizophrenia.
- The client with CD and schizophrenia who may have paranoia leading to decreased food intake or non-adherence to the GF diet, if inpatient and getting medicated, educate patient on the importance of staying on medications and the gluten-free diet.
- If food cost is an issue, educate patient on low-cost, nutrient-rich ways to balance a GF diet.

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- Depression leading to either increased or decreased food intake and non-adherence to the GF diet, follow recommendations for schizophrenia, reminding client that a GF diet may improve depression symptoms.
- Consider medications that affect intake, certain medications for ADHD may decrease appetite, while antipsychotics and antidepressants may increase appetite.
- Clients with autism or developmental delay who may not be able to comprehend dietary instruction, it is important to only counsel with behavioral health clients who have started medications and can comprehend the information provided. Education and instruction of caregivers is essential.
- Balance of the GF diet is of utmost importance, the client must become aware of the need to include whole grain or enriched products for B vitamins, sources of calcium (lactose intolerant clients usually are able to tolerate lactose after the intestines heal, but this is not the case for all clients), and fiber. As can be seen from all of the conditions noted in this paper, strict adherence to a GF diet (or GF, CF diet) can improve behavioral health symptoms.
- Supplementation with a multi-vitamin, B-complex, Omega-3 fatty acids, and vitamin D are the typical addition to the GF diet; if other deficiencies have been detected, other nutrients (particularly iron) may be necessary. Vitamins and medications need to be checked for gluten content.
- Referral to a local support group and a mental health provider (if not already seeking behavioral health assistance) is essential, as are motivational interviewing and counseling skills and thorough knowledge of the GF lifestyle for the RD assessing the client. It may be necessary to refer to another RD if the assessing RD does not feel comfortable in counseling on the GF diet.

In conclusion, it is imperative that the Registered Dietitian be aware of the possibility of celiac disease in association with behavioral health conditions and vice versa. Behavioral health nutrition practitioners must obtain an in-depth knowledge of celiac disease and the gluten-free diet as well as develop competency skills in counseling.

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'Thinspiration'

What You Should Know About These Potentially Dangerous Sites

Katie R. Gilder, RD

Eating disorders have always been most prevalent amongst teenagers, especially teenage girls. During a time in their lives where adolescents feel pressure from every direction, it is no wonder many of them seek a way to gain some "control" by regulating what they eat. It has always been difficult to treat an eating disorder, and there is a new weapon that needs to be defended against.

In a time when there seems to be no end to what new technologies pop up every year, when a four year old can use an iPod and most ten year olds are more savvy with a computer than their parents, it is no surprise that many teenagers are creating their own websites. While in some instances blogging may be beneficial for a teenage girl, acting like an online journal, in many instances it serves as no more than a place for many, especially teenage girls all struggling with a horrible mental illness, to feed off each other. There is no shortage of 'thinspiration' websites, blogs or YouTube videos, merely one Google search with 372,000 results from anyone struggling with an eating disorder. When adolescents feel attacked by therapists, dietitians, parents and other members of the treatment team assigned to address their disease, they can turn to websites that not only advocate that anorexia(ana) and bulimia(mia) are simply a lifestyle choice, but also provide them with pictures, quotes, and life stories to help them "hold strong to their personal choice." How are we going to convince someone who already does not want to let go of their eating disorder that it is truly necessary, when they can in an instant find thousands of people who share the same distorted views of body image and the world in general? As we send the message that they have a disease, these websites instead say they are being persecuted for a lifestyle choice. We as professionals struggle to teach them about healthy

body images as they search to find YouTube videos complete with emotional "theme" songs to reaffirm that their beliefs about body image are correct. These videos assert that "bones are beautiful" and that if they continue to stick with their beliefs they are stronger than the average person who is weak, and lacks their will power. If someone who suffers from an eating disorder feels like they might want to binge, instead of working through it with the techniques they may have learned in treatment they can instead go on the internet to find some reverse "thinspiration;" pictures of fast food and morbidly obese people placed together in videos with distorted inspirational quotes that say things like "nothing tastes as good as skinny feels", "hunger hurts but starving works" and "throw sticks and stones I'll grow my bones and names will always guide me."

For girls who have yet to seek treatment for their disorder, these sites may be even more dangerous as it encourages them to not only continue on the path they are on, but to push it further and to show more will power by eating less, starving more, and bingeing more. Many of these websites provide the users with advice about how to survive while eating nearly nothing. These sites often advocate to readers that they should eat one single food per day but divide it over four meals, and reminds readers to take multi-vitamins so that they limit the medical side effects of malnutrition that would potentially lead friends and families to intervene.

The people who create these sites are often adolescent girls who also encourage the people who are accessing their blogs or watching their videos to create friendships with one another called ana or mia buddies. These buddy relationships are often presented as ways to support one another, but unfortunately the support they are providing is the

support to keep holding onto their eating disorder, not the emotional support they need to break free from it.

While some blogging sites will remove or flag blogs that are deemed "pro-ana" or "pro-mia" and some YouTube videos that are promoting eating disorders are removed, the majority are allowed to stay up. If using Google or YouTube to find 'thinspiration' sites and videos sometimes the ads to the side of the page or across a video will be for a recovery center or even a suicide prevention hotline, but for people immersed in their eating disorder these ads will do little to discourage them. Overall, as with all things on the internet, these sites are too widespread for there to be any real regulation of them, and many of the creators can and do argue that what they are doing is free speech.

What can practitioners do? One of the most important things is to just be aware. Know that these websites exist and educate the parents, family and friends of people who are suffering with eating disorders so that they may also be aware. Encourage families to limit the amount of time a person who suffers from an eating disorder is allowed to spend on the computer, and suggest that they be monitored while on the computer. If the members of the treatment team and the people important to a patient understand the kind of things that are on these websites, we may even be able to use it to our advantage by addressing some of the ideas and information presented on the sites with clients and or in group therapy. While this may be a difficult subject to navigate, especially for parents, it will be more beneficial to address the issue of "thinspiration" rather than ignore it.

About the Author

Katie R. Gilder is a registered dietitian, currently employed by Sodexo. She is a member of the American Dietetic Association and the BHN DPG. She completed her dietetic internship at Southern Regional Medical Center, where her emphasis was Eating Disorders. She resides in Minneapolis, MN. Email: Kathleen.gilder@gmail.com

Resources

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Assessment and Correction of Skinfold Thickness Equations in Estimating Body Fat in Children with Cerebral Palsy

The National Institute of Health PubMed Central, Accessed March 24, 2011

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Reliable measures of weight and height allow the use of weight-for-height centiles and body mass index (BMI), but the validity of these measures in assessing nutrition status in children with cerebral palsy (CP) may be considered questionable. Body composition in malnourished children with CP have been shown to include increased total body water, depleted fat and muscle stores, short stature, and decreased bone density. The purpose of this study published in the journal of *Developmental Medicine & Child Neurology* Volume 52, Issue 2, pages e35–e41, February 2010 was twofold. First, to confirm the Slaughter equations underestimate percentage body fat in children with CP, by the use of a relatively large sample of children with varying degrees of severity of CP.

Abstract

AIM - To assess the accuracy of skinfold equations in estimating percentage body fat in children with cerebral palsy (CP), compared with assessment of body fat from dual energy X-ray absorptiometry (DXA).

METHOD - Data were collected from 71 participants (30 females, 41 males) with CP (Gross Motor Function Classification System [GMFCS] levels I–V) between the ages of 8 and 18 years. Estimated percentage body fat was computed using established (Slaughter) equations based on the triceps and subscapular skinfolds. A linear model was fitted to assess the use of a simple correction to these equations for children with CP.

RESULTS - Slaughter's equations consistently underestimated percentage body fat (mean difference compared with DXA percentage body fat $-9.6/100$ [SD 6.2]; 95% confidence interval [CI] -11.0 to -8.1). New equations were developed in which a correction factor was added to the existing equations based on sex, race, GMFCS level, size, and pubertal status. These corrected equations for children with CP agree better with DXA (mean difference $0.2/100$ [SD=4.8]; 95% CI -1.0 to 1.3) than existing equations.

INTERPRETATION - A simple correction factor to commonly used equations substantially improves the ability to estimate percentage body fat from two skinfold measures in children with CP.

Second, given corroboration of this previous finding, possible corrections to the existing Slaughter equations would be estimated, and their ability to predict percentage body fat more accurately would be assessed.

* Adapted from the National Institute of Health Public Access Author Manuscript

NIH Public Access

Dev Med Child Neurol. Author manuscript; available in PMC 2010 April 24.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2859115/?tool=pmcentrez>

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BHN Delegate is in the House

The ADA House of Delegates will be conducting the third virtual HOD meeting this spring, April 30 to May 1, 2011.

Issues important to the direction of the profession are being discussed by delegates and meeting participants:

- Identification of Mega Issues (HOD Core Function);
- Market Place Relevance (Mega Issue); and,
- Establishment of an ADA Associate Category (HOD Core Function), continued from Fall 2010.

Stay tuned for an e-blast and information on the listserv about these discussions at the Spring HOD meeting. For more HOD information visit <http://www.eatright.org/hod/>

Leslie Schilling, MA, RD, CSSD is the delegate for BHN and can be contacted at leslie@schillingnutrition.com or 901-628-8102 cell, 901-761-5933 fax.

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Student Corner

Nutritional Effects of Student Binge Drinking

By Stephanie Joppa and Marley Peale

Sam Spady was 19 when she was found dead in a fraternity bedroom in 2004. After a night of binge-drinking over Labor Day weekend, she succumbed to alcohol poisoning (1), with a Blood Alcohol Level of 0.436 (to compare, most states have 0.08 as the legal limit for driving). Unfortunately, she is not alone in her death. According to the National Institute on Alcohol Abuse and Alcoholism www.niaaa.nih.gov regarding college drinking, around 1800 students die per year, nearly 600,000 are injured, almost 700,000 are assaulted, and 97,000 are victims of sexual assault. These are only a small number of drinking's effects; with many more being affected in other ways not listed (2).

While students are all somewhat aware of the dangers of excessive drinking (especially binge-drinking), it is harder to find college students who are informed of the problematic nutritional effects that can arise from drinking. With many universities facing the issue of binge drinking, it is important for students, faculty, and those in the health profession to be knowledgeable about the nutritional harm that drinking can cause. In particular, the potential exists for reduced amounts of vitamins and minerals, such as calcium, vitamin A, potassium, magnesium, copper, vitamin C, riboflavin, folic acid, and selenium (not a conclusive list) (3).

Primary malnourishment can occur in college students who restrict calories from food in favor of consuming calories in alcohol. Some students drink on an empty stomach in order to hasten and enhance alcohol's effects (4). Others engage in this behavior in order to prevent weight gain when binge drinking, which the National Eating Disorders Association refers to as "drunkorexia" (5). Replacing calories and nutrients from foods with alcohol's empty calories can result in inadequate amounts of protein, carbohydrate, and fat (6).

It comes as no surprise that weight is a common concern for college-age students. As such, many diet cocktail mixes are now on the market and appear to be

lucrative. Students who want to reduce caloric intake while drinking mixed cocktails should be aware that diet drinks may lead to a higher blood alcohol level.

Sugar-free drinks have been found to proceed through the stomach and into the small intestine quicker than drinks with sugar (7). This may contribute to a higher blood alcohol concentration when compared to cocktails made with sugar.

Not only can students suffer from a lack of macronutrients, but micronutrients are also of concern. Secondary malnourishment can occur in students who have adequate nutrient intake because alcohol can not only diminish the proper absorption and utilization of nutrients, but it can contribute to their depletion (6). Even individuals who drink moderate amounts of alcohol can be affected. This is largely due to various biochemical reactions in the body.

Once alcohol has been ingested, the body uses various enzymes to break it down. These enzymes are also used to stimulate vitamin A to its active, useful form. When alcohol is present, these enzymes have to concentrate on breaking down the ethanol rather than activating vitamin A. Increased liver activity associated with alcohol consumption may also contribute to increased metabolism and reduced hepatic storage of vitamin A (8). A deficiency in vitamin A can affect the eyes, hair, skin, and immune system.

Alcohol may inhibit folic acid absorption in the small intestine and impair uptake and retention in the liver. Poor folic acid status can disrupt the production of methionine and result in an accumulation of the substrate, homocysteine, which is associated with cardiovascular risks (9). Even with moderate alcohol intake in a short period of time, changes in biochemical markers can occur. Researchers observed increased homocysteine levels and decreased levels of both folic acid and vitamin B12 after drinking either 8.1 oz. red wine or 2.7 oz. vodka every day for two weeks (10).

Additionally, the production of thiamin can be inhibited by alcohol con-



Stephanie Joppa



Marley Peale

sumption and a deficiency of this micronutrient may result in diminished brain function (11). Alcohol can also interfere with calcium levels and the activation of vitamin D, therefore jeopardizing bone health (12). Not only is alcohol a toxic substance, but its degradation produces toxic products that interfere with production and activation of B6, which can contribute to nervous disorders and skin rashes (13). Metabolizing alcohol relies on the presence of niacin, which also breaks down, forming NADH, which in excess, can lead to fat stores in the liver (14).

Many students are familiar with the organ damage that alcohol can do to one's body, such as liver disease, the death of brain cells, and the susceptibility that alcohol leaves one vulnerable to attack or poor decisions. However, students are often less aware of the implications that drinking, especially binge drinking, has on nutrition. While these effects may take slightly longer to notice, they have wide-ranging systemic effects that must be noted. It is important to remind those over age 21 to consume alcohol in moderate doses along with food, and combined with a healthy diet loaded with fruits, vegetables, and whole grains.

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Congratulations to New Officers for Year 2011 – 2012!

Chair-elect
Therese Shumaker, MS, RD, LD

Treasurer
Cary Kreutzer, MPH, RD

Nominating Committee
Minh-Hal Tran, MS, RD, CSSD

 American Dietetic Association

NEW! eMentoring System

Build the future of dietetics by becoming a mentor today

ADA invites you to share the knowledge and expertise you've developed through years of experience. Being a role model will ensure a solid foundation for the future of the dietetics profession. Becoming a mentor couldn't be easier with ADA's new eMentoring system.

This new online system will accept mentees as of June 1, 2011. Before we can accept mentees, however, we need mentors like you! This new offering will enable ADA member mentors and mentees to find optimal matches based on a variety of qualifications such as geographic location, years of experience and practice area. The system also provides comprehensive eMentoring tools to enhance online communication between both parties.

If you have 3 or more years of experience in dietetics, please go to www.adaementoring.com and click on "Register as a Mentor."



MENTORS
Mentoring is based upon mutual trust and respect. Most anyone can be a good mentor if they are committed to the process. To become an ADA mentor, individuals must be an ADA member and have at least three years experience in dietetics. Mentors may interact with a maximum of two mentees at any given time. Mentees will be available June 1, 2011.

MENTEES
Mentoring is a collaborative, not didactic process. The mentee must enter into the relationship with a thorough understanding of his or her own role and responsibilities. The most basic responsibility of the mentee is choosing his or her mentor.

Available June 1, 2011

Why ADA is Right for You: 2011 ADA Member Benefits Update

With over 71,000 members—and more joining every day—the American Dietetic Association comprises members whose needs, interests, skills, and backgrounds span the entirety of the dietetics profession. To meet the needs of a diverse and growing membership, ADA offers an ever-expanding array of member benefits designed to help you develop your skills, advance your career, and achieve your professional goals. As a member of the nation's largest organization of food and nutrition practitioners, you have access to a wide variety of benefits, including professional publications, networking opportunities, and professional development resources, to name just a few (Figure). With all of the benefits available to you, plus a steady stream of new and improved offerings on the way throughout each year, it can be hard to keep up with the full spectrum of career-enhancing benefits your membership allows you to enjoy.

Of course, ADA wants you to take full advantage of all the opportunities available to you, so this article provides a listing of some of the newer and most important resources ADA provides, accompanied by brief descriptions of their function. Please feel free to share this list with your colleagues, or direct it to someone you think may qualify for membership—we've made this article open access so non-members can see what they're missing!

Networking & Promotion Resources

E-Mentoring: Debuting this summer, ADA's new national online system will enable optimal matches between ADA member mentors and mentees based on a variety of qualifications such as geographic location, years of experience and practice area. The system also provides comprehensive e-mentoring tools to enhance online communication between both parties. ADA invites you to share the knowledge and expertise you've developed through the years by being a role model and helping to ensure a solid foundation for the future of the dietetics profession. Members can find additional mentoring tips and tools on the Mentoring Resources page in the Career Center at www.eatright.org.

Member Interest Groups (MIGs): Member Interest Groups are groups of ADA members who have a common interest. Unlike dietetic practice groups or affiliates, member interest groups focus on areas other than the practice of dietetics or geographic location. As divisions of the national organization, MIGs reflect the many characteristics of ADA's membership and the public it serves. Current MIGs include the National Organization of Men in Nutrition (NOMIN), Chinese Americans in Dietetics and Nutrition (CADN),

Latinos and Hispanics in Dietetics and Nutrition (LAHIDAN), the National Organization of Blacks in Dietetics and Nutrition (NOBIDAN), Fifty-Plus in Nutrition and Dietetics (FPIND), Filipino Americans in Dietetics and Nutrition (FADN), and Muslims in Dietetics and Nutrition (MIDAN).

National Nutrition Month Materials: National Nutrition Month (NNM), celebrated every March, is an annual nutrition education and information campaign created by ADA that's designed to focus attention on the importance of making informed food choices and developing sound eating and physical activity habits. ADA provides food and nutrition professionals with access to a wide variety of supporting materials to help convey this important message, including fact sheets, flyers, classroom guides and games, recipes, press releases, and event ideas.

Registered Dietitian Day: March 9, 2011 was the fourth annual Registered Dietitian Day. This special occasion was created by the American Dietetic Association to increase the awareness of registered dietitians as the indispensable providers of food and nutrition services and to recognize RDs for their commitment to helping people enjoy healthy lives. Registered Dietitian Day promotes ADA and RDs to the public and the media as the

most valuable and credible source of timely, scientifically-based food and nutrition information.

Find a Registered Dietitian Online Referral Service: ADA's Find a Registered Dietitian online referral service is free to Active category members representing their own private practice, group practice or employer. Consumers and businesses search this Web-based site to connect with members who provide nutrition consulting service expertise.

Me, Inc., Online Branding Toolkit: ADA has developed this online branding toolkit to provide you with the resources needed to improve your brand, including communication tips, downloadable promotional flyers, developing your online presence and much more.

Public Relations: ADA's public relations activities promote registered dietitians to the public, professional peers, and legislators. The goal is to inform all audiences who the food and nutrition experts are and how to contact them. Public education campaigns and ADA spokespeople also inform consumers and other health professionals about nutrition and the important role of the registered dietitian.

Information Resources

www.eatright.org: ADA's Web site, redesigned in 2010, is faster, more user-friendly, offers a more powerful search function, and can be personalized to meet your needs. Eatright.org features five sections specifically targeted to members, students, the public, the media, and other health professionals, making it easier for all visitors to access the content they want. Build your MyADA profile and get involved with quick links to blogs, forums, surveys, and online communities—and get connected by easily subscribing to and sharing e-newsletters, RSS feeds, podcasts, and videos. And as always, eatright.org keeps you informed with 24/7 access to scientific and professional resources,

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Why ADA is Right for You

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and links that are essential for any food and nutrition practitioner. The secure, member-only site can be accessed using your member ID and password, and provides a wealth of information and programs in a location that guards your privacy.

Eat Right Weekly: This weekly e-newsletter provides members with access to career resources, research briefs, continuing education opportunities, ADA updates, policy and advocacy issues, and a variety of other news.

Daily News: Opt in to receive this key resource for keeping abreast of the top news stories concerning dietetics and the profession. Delivered to your e-mail inbox every weekday morning, ADA's Daily News is a quick review of the nation's leading food, nutrition, and health headlines, with links directly to the articles.

Career Resources

ADACareerLink: ADA's online job service allows you to post résumés, target searches by specialty and geographic location, respond directly to job listings, and receive e-mail alerts about new positions. For a fee, you can also recruit professionals for your organization. Access this indispensable service under the Career Center in the Member section of eatright.org.

Compensation and Benefits Survey of the Dietetics Profession: This comprehensive report details compensation for dozens of core RD and DTR jobs, broken down by region, education, experience, supervisory and budget responsibility, and several other factors. You can also use this information to determine fair market value for your services by accessing the interactive salary calculation worksheet available at eatright.org, which is based on a statistical model developed with data from the survey. The worksheet offers a rough idea of what professionals with similar characteristics and in similar situations earn, on average, and provides a sense of the relative importance of each factor in predicting salaries.

Members enjoy significantly reduced pricing for this downloadable report.

Center for Career Opportunities: The Center for Career Opportunities is a 1-day exhibit opportunity for FNCE exhibitors and other employers to meet face-to-face with qualified nutrition professionals who are interested in employment opportunities. Attendees are encouraged to bring their résumés in order to participate fully and get the most from the experience. Employers who have participated in the event have commented on the high caliber of potential recruits, and with attendees coming from across the country, you could find your next dietetics employee or employer at this event no matter where you are located.

Practice Resources

MNT Practice Resources: There is a wealth of information on ADA's Medical Nutrition Therapy (MNT) Web page to help members understand the business of dietetics. Consider it your one-stop shop for practice management education. Learn about codes for nutrition services, how to become a Medicare provider, private insurance reimbursement, tips to expand MNT coverage, telehealth, and more. Popular advocacy materials available for download include the MNT Works marketing toolkit, ADA's payer brochure for increasing MNT coverage, and a step-by-step billing presentation called "Cracking the Code: Billing Potential beyond Medical Nutrition Therapy." Access these resources at www.eatright.org/mnt.

Eat Right Messages: The Eat Right Messages Program is an online and print nutrition education program that is available on ADA's Web site as print-ready, two-page handouts in PDF format. Content includes a statement promoting registered dietitians and a special section where members can include personalized contact information.

Evidence-Based Nutrition Practice Guidelines and Toolkits: Located in the Evidence Analysis Library, these guidelines provide disease-specific nutrition recommendations using a systematic approach that assures nutrition care is based on scientific evidence. Toolkits accompany the guidelines and provide Medical Nutrition Therapy tools used for documenting patient encounters and collecting outcomes.

Educational Resources

Center for Professional Development: The premier choice for lifelong learning, the Center for Professional Development offers conferences, workshops, meetings, lectures, live phone teleseminars and webinars, e-learning, CD-ROM and online courses, and audiotapes. ADA's professional development opportunities are easily accessed through the Center under the Professional Development tab on the Member section of eatright.org.

Leadership Institute: ADA's Leadership Institute is an integrated, intensive, multi-format training program in the theory and practice of leadership in dietetics. The purpose of the program is to enhance the leadership competencies of ADA members both conceptually and interpersonally, through a combination of information, skill development, and practice-based educational experiences.

Free Online Journal Continuing Professional Education (CPE): Since January 2008, ADA members have been able to easily complete their *Journal* CPE quizzes online at www.eatright.org. See which quizzes you've already completed and take one that's still available to complete for credit. Quizzes are scored automatically online, and once all questions are answered correctly, CPE credit for completed quizzes may be added directly to your Professional Development Portfolio.

For a more extensive list of benefits, visit the members-only section of ADA's Website at www.eatright.org or call the Member Service Center at 800/877-1600, ext 5000, Monday through Friday, 8:00 AM to 5:00 PM Central Standard Time.

Public Policy Update

Cinde Rutkowski, MA, RD, FADA, BHN Public Policy Liaison

As BHN's Public Policy Liaison, I was one of 450 ADA members who participated in ADA's 2011 Public Policy Workshop which was held February 6-8 in Washington, DC. PPW 2011 provided both professional development and educational opportunities for continued involvement in ADA's public policy outreach.

Highlights of the three days include:

- The debate of the pros and cons on the proposed food and beverage taxes between Michael F. Jacobson, PhD, Executive Director for the Center for Science in the Public Interest and Richard Williams, PhD, Director of Policy Research at the Mercatus Center at George Mason University.
- The presentation of ADA's 2011 Public Policy Leadership Award to U.S. Rep. Danny K. Davis (D-Ill.) for his

support of food and nutrition-related legislation. The site for the presentation was ADA's Political Action Committee inaugural fundraising event at PPW which was held at the John F. Kennedy Center for the Performing Arts. In his remarks, Representative Davis promised continued support of food and nutrition issues.

- The launch of the new Congressional Quarterly State Track System which provides ADA members with the tools to be aware of current state-level legislation and regulations.
- Capitol Hill visits with Congressmen, Senators and/or their staff. Among the congressional visits that I was privileged to make was Senator Debbie Stabenow's "Tuesday morning Michigan Coffee Hour". Senator Stabenow is currently the Chairwoman of the Senate Committee on

Agriculture, Nutrition and Forestry. Senator Stabenow spoke highly of the work that Registered Dietitians do to promote health and wellness and promised her continuing support of food and nutrition issues.

The key issues that ADA identified for us as Registered Dietitians to communicate to our elected officials are:

- Healthy Aging: Older Americans Act Reauthorization Passage
- Healthier Lifestyle and Prevention America Act – the HeLP America Act (Senate Only)
- Reducing Health Disparities: The Medical Foods Equity Act, insurance coverage for special dietary needs for persons with PKU

If you have questions regarding PPW or the Key Issues noted above, please contact me at rutkowskic@michigan.gov.

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- Learn new recipes by watching ADA Partners and Premier Sponsors demonstrate succulent new dishes in the Culinary Demo Theater.
- Voice your opinion and hear from the experts on controversial issues affecting the profession including dietary sweeteners, diet and autism and weight science.

Visit www.eatright.org/fnce to learn more. Registration opens May 16



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IMPACT

ADA FOOD & NUTRITION CONFERENCE & EXPO

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New! Do you have a product or service you would like to publicize?

BHNewsletter now offers one-time FREE ad space (business card size, 1/12 page ad) to members who submit an original article that is subsequently published.

All ads must be reviewed and approved by BHN DPG and ADA prior to publication in the *BHNewsletter*.

For information on this and other advertisement opportunities inquire at newsletter@bhndpg.org.

BHNewsletter reaches more than 1400 members quarterly!

Honoring ADA's 50 Year and More Members

BHN is pleased to honor members that are ADA members for fifty years or more, joining the American Dietetic Association during or prior to 1961. BHN members joining in this elite group are Nancy Casad, MS, RD, LDN, Ruth Cross, RD and Patricia Hennessey, MS, RD.

In recognition of the 50th year of membership, ADA honors their members by receiving complimentary registration to attend the Food and Nutrition Conference and Exposition (FNCE) and special recognition at an honor ceremony. These honored members of BHN also receive special recognition at BHN's member reception and awards during FNCE. Plan to join in this special time to honor such dedicated food and nutrition practitioners

BHN's 50+ members are:

- Laverne Anderson, RD, Michigan, 1947
- Thelma Anderson, RD, CD, Indiana, 1960
- Bettie Brigman, BS, California, 1959
- Virginia Casteen, MBA, BA, California, 1950
- Nancy Casad, MS, RD, LDN, Tennessee, 1961
- Harriet Cloud, MS, RD, Alabama, 1946
- Rita Connelly, RD, Texas, 1953
- Ruth Cross, RD, California, 1960
- Shirley Ekvall, PhD, RD, LD, Ohio, 1957
- Barbara Gaffield, MS, Virginia, 1949
- Patricia Hennessey, MS, RD, Montana, 1947
- Dorothea Meagher, RD, LD, Oregon, 1950
- Carol Nealon, RD, Massachusetts, 1960
- Elaine Sasso, RD, Illinois, since 1958

eat right. American Dietetic Association

Recently Updated!

Disorders of Lipid Metabolism Evidence-Based Nutrition Practice Guideline FREE to all ADA Members

You will find nutrition recommendations within this guideline related to individuals with Disorders of Lipid Metabolism which include the following topics, among many others:

- Medical nutrition therapy and nutrition assessment, monitoring and evaluation
- Cardio Protective Diet (e.g., Omega-3 Fatty Acids, Plant Stanols and Sterols)
- Micronutrient Intervention (e.g., Antioxidant Supplementations, Homocysteine, Folate, Coenzyme Q10)
- Behavior/Physical Activity



To access visit www.eatright.org, sign-in and select the Evidence Analysis Library link on left. Select "Guidelines" and click on "Nutrition Guideline List".

BHN-Supported Speaker to Present at Conference in June

By Beth Ogata, MS, RD, CSP

Kim Cooperman, MS, RD will present two talks, "Nutrition and Children with Developmental Disabilities," and "Nutrition Intervention in Failure-to-Thrive." These presentations are part of a three-day conference, "Assuring Pediatric Nutrition in the Hospital and Community," to be held June 22-24, 2011 in Seattle, WA.

Ms. Cooperman is a Clinical Pediatric Dietitian at Seattle Children's Hospital. She has experience in Neuro developmental, Neurology, Neurosurgery, and Feeding and Growth Clinic. She is an integral team member and a valuable resource to the children and families she works with, as well as to her local and state dietetics associations.

Ms. Cooperman's sessions are supported 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 \$200 to support BHN members that speak at conferences, meetings, or community events. More information about BHN's speaker stipend program can be found on the BHN website: <http://www.bhndpg.org/about/membership.asp>.



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Save the Date!

National Council Mental Health and Addictions Conference
May 2 – 4, 2011 in San Diego, CA
www.thenationalcouncil.org/cs/conference

Obesity Treatment & Prevention Conference
May 4-6, 2011 in San Francisco, CA
www.ContemporaryForums.com

Nutrition & Health Conference
Nutrition and Health:
State of the Science and Clinical Applications
May 9 - 11, 2011 in San Francisco, CA
<http://www.nutritionandhealthconf.org/agenda.html>

American Association on Intellectual and Developmental Disabilities Conference
June 6-9, 2011 in Twin Cities, MN
http://www.aaid.org/content_223.cfm?navID=75

Assuring Pediatric Nutrition in the Hospital and Community
June 22-24, 2011 in Seattle, WA
<http://www.uwcne.net/conf/PDFs/10135-C.pdf>

National Alliance on Mental Illness Convention
July 6 - 9, 2011 in Chicago, IL
www.nami.org

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