Jacqueline J. Zimmerman, MS, RD

Chia: An Underappreciated Source of Omega-3 Fatty Acids

Chia: if the word conjures images of clay pots and sprouting green “hair,” you are not alone. For years in the United States, chia has been relegated to a novelty, a place unfitting for an edible seed so packed with vital nutrients. Often overshadowed by flax or walnuts, chia seeds are a rich source of omega-3 fatty acids, both soluble and insoluble fiber, and minerals. Recently, chia appears to be experiencing a renaissance - one that is rightly deserved.

Though a relative newcomer to the U.S., chia seeds have been consumed for centuries in countries like Mexico, Guatemala, and India. Chia, or Salvia hispanica, a flowering herb related to mint, is believed to be native to Central America where it was cultivated by the Aztecs and was a mainstay of the Aztec diet. According to Aztec folklore, chia seeds were known as the “running food.” Aztec warriors would leave on conquests with only survival rations of chia seeds to sustain them for days. They also used chia medicinally to treat skin conditions and joint pain.

Today, chia is cultivated around the globe, with Australia as the world’s largest producer. These tiny seeds are currently marketed as an ancient wonder food with claims that run the gamut. Consumers look to chia to treat wrinkles and dry skin, boost cognition and memory, support bone and joint health, improve glycemic control, increase energy, improve mood, and support weight loss. While human studies examining the health benefits of chia are scarce and don’t support these claims so far, there are plenty of science-based reasons to add chia to your diet.

Chia seeds are packed with alpha-linolenic acid (ALA), the plant source of omega-3 fatty acids. Just two teaspoons of dried chia seeds provide 1.7 g of ALA (meeting the DRI for adults), 3.6 g of fiber, 60 mg of calcium, 15 mg potassium and 89 mg phosphorus. When compared to the same amount of ground flax seeds, chia comes out on top on all accounts.

In 2007, a small crossover study examined the effect of chia supplementation on 21 subjects with Type II diabetes. For 12 weeks, subjects were randomly assigned to eat both a supplement and bread made from Salba, a brand of selectively bred white chia seeds (37+4 g/d), or wheat bran (control). The chia-eaters exhibited a dramatic increase in ALA blood levels, nearly double that of the controls. While consuming chia, subjects had significantly lower systolic blood pressure compared with control treatment, but chia was found to have no significant effect on cholesterol, fasting insulin, or fasting glucose levels.

A study conducted in 2009 examined daily chia supplementation and weight loss, body composition, blood pressure, cholesterol levels, and inflammatory markers in 90 overweight and obese adults. The subjects were randomly assigned to consume chia seeds (50 g/d providing 19 g total fiber and 8.8 g ALA) or a placebo supplement daily for 12 weeks. The placebo was formulated to contain comparable amounts of macronutrients to chia, but was lower in total fiber. After 12 weeks, no significant changes in any of the outcomes were found, but the chia group’s blood levels of ALA were significantly higher than that of the placebo group.

continued on page 66
In 2010, a very small double-blind randomized crossover study (n=11) examined the effect of chia on postprandial glycemia and satiety in healthy, normal-weight adults. After a 10-12 hour fast, subjects consumed a test meal of 50 g of carbohydrate plus 0 g, 7 g, 15 g or 24 g of Salba-brand chia seeds. Blood glucose and appetite were measured in the fasting state and 15, 30, 45, 60, 90, and 120 minutes after consuming the test meal. When compared with controls, significantly lower blood glucose levels were observed at all levels of chia consumption. For the 24 g chia group, the difference in blood glucose levels was significant at the 60, 90, and 120-minute measurements. For the 15 g and 7 g chia groups, blood glucose was significantly different at 60 minutes and 45 minutes, respectively. Satiety ratings also showed significance when compared with controls: the 24 g group reported significantly lower appetite ratings at 60, 90, and 120 minutes, the 15 g group at 90 and 120 minutes and the 7 g group at 120 minutes post-meal. While these findings seem promising, the small sample size and use of a brand of selectively bred chia seeds severely limits the degree to which these results may be generalized.

Overall, the duration of these studies – a mere 12 weeks at most – is not sufficient to determine chia’s effect on long-term health. However, the chia-consumers in two studies had demonstrably higher blood levels of ALA. According to the final report of the landmark Lyon Diet Heart Study, which presents data from subjects followed for up to 4 years after an initial heart attack, people consuming a Mediterranean diet high in ALA experienced lower rates of death, hospitalizations and cardiac events. Most notably, the Mediterranean diet group had significantly higher blood levels of ALA when compared to the control group; and these higher ALA levels “tended to be inversely associated with recurrence.” Increased dietary intake of ALA is also associated with reduced risk of atherosclerosis, hypertension, and cardiovascular disease.

More research is needed to clarify chia’s potential ability to improve and sustain human health. However, chia seeds are a convenient and versatile vessel to increase dietary ALA, fiber, calcium and potassium. To date, no known adverse reactions or interactions with drugs, food, herbs or supplements have been reported. Some evidence suggests high intakes of ALA may increase risk of (or worsen existing) prostate cancer, though the mechanism is unknown. Until more evidence is available, men diagnosed with (or at high risk of) prostate cancer should avoid consuming large quantities of chia seeds and other ALA-rich foods.

The culinary uses of chia seeds are only limited by the imagination. Unlike flax seeds, which are not digestible in their whole form and must be ground, chia seeds may be consumed intact. When soaked in water, chia seeds form a gel, which may be mixed into beverages, added to prepared dishes or substituted for oil or egg in baked items. One recent study showed that 25% of oil or egg in a cake recipe may be replaced by chia gel without impacting functional qualities of the product, including weight, volume, and taste. This level of substitution also resulted in a three-fold increase in the omega-3 fat content of the cake. Replacing 50% and 75% of the oil or egg in the recipe resulted in even greater omega-3 increases. However, substitution at these higher levels significantly decreased the volume and sensory evaluation ratings for color, texture, acceptability and taste. However, there were no significant sensory differences between the 25% substituted and control cakes.

Several brands of chia seeds are available for purchase online or in stores for approximately $15 - $20 per pound. Using 2 teaspoons per day, a 1-lb bag of chia seeds should last for approximately 7 weeks.

**Chia Fresca**
- Add 1 teaspoon dried chia seeds to an 8 oz glass of lemonade.
- Wait 5-10 min for seeds to plump, then stir and enjoy!

**Chia Quinoa**
- Soak chia seeds in water until plump, about 5 – 10 minutes.
- Add 1 tablespoon plump chia seeds to 1 cup prepared quinoa. Toss with a fork to evenly distribute the seeds before serving.

**Fruit Salad with Chia**
- Soak chia seeds in water until plump, about 5-10 minutes.
- Chop your favorite fruit into ½ inch pieces and place in a bowl.
- Add 2 teaspoons of plumped chia seeds, then gently stir to mix.

Jacqueline Santora Zimmerman, MS, RD is a research dietitian in the bionutrition unit of Columbia University’s Irving Institute for Clinical and Translational Research. There, she assists in the development and implementation of nutrition-related research studies. Jacqueline earned her MS degree in nutrition education from Teachers College, Columbia University and BA degree in psychology from Vassar College. She is also a contributing editor for SuperKidsNutrition.com.
Chia: An Underappreciated Source of Omega-3 Fatty Acids

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References:

Come Join me at FNCE!

You’re invited to attend the 2011 ADA Food & Nutrition Conference & Expo, September 24 – 27 in San Diego, California. Don’t miss this chance to truly IMPACT your career by earning CPES, making key business connections and discovering emerging trends and innovations.

I look forward to seeing you in San Diego!

Here is a preview of what to expect:

- Enhance your learning with cutting-edge educational sessions covering at least eight tracks allowing you to earn a minimum of 20 CPE hours.
- Make plans to attend the Research Symposium on Monday where you will gain an insight into the research and strategic topics related to the dietetics profession.
- Discover new and emerging trends and innovations while walking the Expo floor and meeting with over 300 exhibitors.
- Attend the Culture Symposium on Tuesday where you will be able to expand your cultural horizons.
- Be amazed and inspired by our line-up of key note sessions on the power of volunteerism, passion for a cause and how to achieve personal and professional success.
- Above all, network with over 6,000 of your peers!

Visit www.eatright.org/fnce to learn more. Registration opens May 16, 2011.
Searching for Scientific Literature on Dietary Supplements?
A New National Institutes of Health Office of Dietary Supplements Tool Can Help

Joyce M. Merkel, MS, RD
The National Institutes of Health (NIH) Office of Dietary Supplements (ODS) and National Library of Medicine (NLM) have partnered to create the PubMed Dietary Supplement Subset. The Dietary Supplement Subset is a free, convenient search tool to find citations and abstracts for peer-reviewed dietary supplement studies.

With more than 430,000 citations, the Dietary Supplement Subset is designed to limit search results in PubMed (currently containing over 20 million citations) to a broad spectrum of dietary supplement literature including vitamin, mineral, phytochemical, ergogenic, and botanical supplements in human nutrition and animal models.

The Dietary Supplement Subset will retrieve citations on topics including, but not limited to:

- clinical trials
- fortification
- chemical composition
- health and adverse effects
- biochemical role and function – both in vitro and in vivo
- traditional Chinese medicine and other folk/ethnic supplement practices
- cultivation of botanical products used as dietary supplements, and
- surveys of dietary supplement use

There are three ways to use the PubMed Dietary Supplement Subset via the Internet:

1. Search from the ODS Web site (http://ods.od.nih.gov/ODS) – Searches will be automatically limited to dietary supplement related citations.

2. Search from the NLM PubMed Web site (http://www.pubmed.gov) – First click on the “Limit” function, and then select “Dietary Supplements” on the “Subsets” pull down menu; then start searching.

3. Search from the NLM PubMed Web site – Add the subset term: dietsuppl [sb] to your search term or string. For example: ginkgo AND dietsuppl [sb].

More information or assistance on using the Dietary Supplement Subset is available through the NLM reference services at 1-888-FIND-NLM (1-888-346-3656) or custserv@nlm.nih.gov.

The PubMed Dietary Supplement Subset succeeds the International Bibliographic Information on Dietary Supplements (IBIDS) database, which was a collaboration between ODS and the U.S. Department of Agriculture National Agricultural Library from 1999-2010.

About ODS
The Dietary Supplement Health and Education Act of 1994 (Public Law 103-417, DSHEA) authorized the establishment of the Office of Dietary Supplements at the NIH. Created in 1995, the ODS mission is to strengthen knowledge and understanding of dietary supplements by evaluating scientific information, stimulating and supporting research, disseminating research results, and educating the public.

The ODS Web site (http://ods.od.nih.gov/) offers many resources related to dietary supplements, useful in research, business, or practice. Evidence-based fact sheets (http://ods.od.nih.gov/factsheets) for both busy health professionals and for consumers on specific vitamins, minerals, herbs, and other dietary supplements cover health effects, safety, recommended amounts, interactions with medicines, and other topics. These are available in print-ready downloads.

For timely information on dietary supplements and new resources, ODS offers three free electronic publications:

- **ODS Update**, emailed four to six times a year, includes news about ODS programs, staff publications and presentations, dietary supplement fact sheets, databases, meetings and exhibits.

- **The Scoop**, a consumer-focused e-newsletter, is sent out quarterly. Each issue has a different theme such as multivitamins or dietary supplements and aging.

- Timely announcements are sent out through the Special Supplement.

To receive these publications by email, subscribe to the ODS listserv at http://ods.od.nih.gov/News/ODS_ListServ.aspx. All past issues are also available on the Web site.

With at least 50,000 dietary supplement products available in the marketplace today containing vitamins and minerals, herbs and botanicals, and other ingredients such as glucosamine, fish oils, and probiotics, there are many questions about effectiveness and safety. The ODS can serve as a valuable source of accurate, reliable, and unbiased information and assistance. Visit our Web site, http://ods.od.nih.gov for more information about ODS activities or contact us at:

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The 2011 Integrative Healthcare Symposium—Volunteer Opportunities Open Doors for all DIFM Members

Ali Lasky MS, RD, CDN

Integrative Healthcare held its seventh annual symposium in New York City the first weekend of March 2011. Volunteering at DIFM’s booth in the exhibit hall offered the perfect way to update my nutrition knowledge and my portfolio on the array of products and resources available to integrative registered dietitians (RDs). The range of topics discussed reinforced the need to stay knowledgeable and the exhibits provided information on what the marketplace is offering and what we should be researching.

The symposium invited attendees to gain the whole perspective by offering lectures and workshops focused on five key areas: Nutrition, Integrative Oncology, Endocrinology, Brain and Mind Health, and Leadership and Policy. While only five of the presentations were specifically identified as nutrition programs, an additional 15 lectures listed nutritional components in their description or learning objectives. Among the issues discussed were: aging well with nutrigenomics and molecular medicine, the role of iodine in optimized thyroid health, harnessing the power of diet and nutrition to downregulate oncogenic potential, and the use of medical foods in managing depression. Moreover, seminars presented by exhibitors also discussed the role of food, phytonutrients, and dietary supplements in health.

For those individuals unable to attend the symposium presentations, DIFM members, guests, and potential members were able to utilize a special code to access exhibits. The exhibition hall accommodated 130 manufacturers, laboratories, and education and wellness centers eager to promote their products. The DIFM DPG booth offered copies of past newsletters and a flyer listing the benefits of membership to encourage dietitians and other health care practitioners to join. Rita Batheja, MS, RD, CDN, Lea Russell, MBA, RD, LDN and other RDs and students answered questions about the practice group. Volunteer status precluded me from attending any presentations, but allowed full access to the exhibits. There I saw what was new in the nutritional aspect of functional medicine including mushroom supplements and a cognitive health product made with a jellyfish protein.

I became a registered dietitian in the 1990s but haven’t worked in dietetics for quite some time and did not realize how much the discipline of integrative and functional medicine had opened up for RDs and other nutrition and health care professionals. I attributed my lack of current knowledge to being out of the field and unaware of new developments in this exploding field. Nutrigenomics was not a word I heard in graduate school. Hospitals were just beginning to fund complementary medicine departments and colleagues were happy that they could stop referring to certain modalities as alternative. All this was less than 20 years ago.

Dietitians were discussing which states allow RDs to administer food sensitivity and saliva hormone tests and what the many choices have to offer. Today consumers discuss the value of omega-3s and fish oil supplements. And, many of our patients are waking up to the smell of green tea. This is not your mother’s field of nutrition.

Yet, many RDs working in the field are not as well informed as they could be, by choice or by being unaware of the impact integrative and functional medicine is having in our times of changing health care. As members of the DIFM DPG you are aware that research continues to uncover connections between nutrients, health, and well being. You’re open to new ideas. But in your daily practice are you exposed to all that is being discussed and implemented in the realm of functional medicine?

While new products may be lauded are you able to distinguish the good from the bad and the ugly? With tight work schedules and institutional guidelines do you have the ability to expand your skill set?

Conferences such as the Integrative Healthcare Symposium may not fit into your employer’s budget, but volunteering to work the DIFM DPG booth can get you in the door. You will be able to see first hand what the trends are and have the opportunity to network with the movers and shakers in the field. The free handouts, mostly marketing materials, can point you in the right direction for research that supports a new product or lab procedure. Volunteering for DIFM at non-nutrition related events also lets you inform other practitioners of the value of the registered dietitian. As nutrition information becomes more readily available to consumers and avenues exist for people to become nutrition counselors without professional credentials, it becomes more important to demonstrate that we are the experts in the field of nutrition and dietetics.

Research will continue to provide evidence supporting or disputing nutritional therapies previously unknown or questionable. To maintain our standing as the experts it is imperative that we stay up to date and support the role of dietitians in integrative and functional medicine. And, we should be ready to educate colleagues who have not had the opportunity to be as forward thinking as the dietitians who already embrace it. It is imperative that we stay up to date and support the role of dietitians in integrative and functional medicine.

Expand your skill set with DIFM by volunteering at conferences and symposiums such as the Integrative Healthcare Symposium or by reviewing books, webinars, or studies on integrative and functional medicine and writing articles for DIFM.
Resource Review

The Power of Breath: The Art of Breathing Well For Harmony, Happiness, and Health
Swami Saradananda

Reviewed by Amber Parisie

Swami Saradananda has compiled a beautifully illustrated how-to guide to breathing exercises, yoga poses, and healthful tips. Actually, this book is more than just your average guidebook. It is written in a way that fosters confidence in the novice and provides extra challenge for those who have experience with breath work. For example, many of the exercises can be done routinely until the novice becomes comfortable with the exercise. From this foundation a person can incorporate another part to the exercise and add visualization to most of the exercises.

The Power of Breath begins with an introduction to how breath work affects our physical body and its effects on our prana. Prana is Sanskrit for vital life and incorporates five forms. The five forms of prana are described in the introduction, followed by a main chapter devoted to each with accompanying breathing exercises that focus on each form of energy. Some of the very helpful aspects of the book are the chapters on how our breath works, anatomically speaking, as well as the body-breath-mind connection. The way the book is written allows a person with little knowledge of the topics discussed to pick up the book and reap the benefits it contains.

Throughout the book, with each breathing exercise listed, is a description of what the exercise can do to help your energy, digestion, mood, etc. Something unique regarding ailments is the section titled Health and Performance Programs, in which common ailments, including digestive problems, anxiety, circulatory problems, and stress are listed. For each ailment, there is a breathing exercise program suggested with corresponding page numbers to reference, which allows the person practicing to focus their time and energy on exercises to benefit their current state. Most importantly, contraindications for some of the exercises are reviewed so that no harm is experienced to a person who should avoid a particular exercise.

If you are looking to begin breath work practice or expand on your existing breath work practice, this is a wonderfully written, beautifully illustrated guide to help you on your journey. Wherever your journey with breath work may take you, The Power of Breath can aid you in achieving more balanced energy, reduced stress, better digestion, and improved nutrient absorption.

Amber Parisie completed her BS in dietetics from the University of Northern Colorado in December 2010. Contact Amber at aparisie@hotmail.com or (408) 482-5533.

Correction
Please note that on page 52 of the Winter 2011 issue of the DIFM newsletter report of the Pre-FNCE symposium, there is an error in the statement: Assess the presence of other adverse food reactions or food allergies with methods such as the ALCAT test for IgG and IgE or the introduction of an elimination diet. It should have read as follows: Assess the presence of other adverse food reactions or food allergies with methods such as the ALCAT test for delayed food sensitivity or the introduction of an elimination diet.
The 10th Annual Complementary Medicine Conference sponsored by the Breast Cancer Options not-for-profit organization was held April 3, 2011. The purpose of the conference was to empower attendees to make informed health care decisions and healthy lifestyle changes in order to reduce the risk of breast cancer or recurrence. Speakers presented current research on cancer and its relationship with the environment, nutrition, and health.

The day began with a breakfast and opening session on making informed medical decisions. The panel of speakers included Georgia Decker, APRN, ANP-BC, CN, AOCN, oncology nursing specialist; Judith Greenfield, PhD, RN; and Richard Satterwhite of Rockwell Park Cancer Institute, a prostate cancer survivor and patient navigator providing educational community outreach. This was a question and answer session that included discussions about the difficulties that newly diagnosed breast cancer patients face. Although a wealth of available information can be a good thing, patients often feel overwhelmed with how much information to which they have access. We live in a world where we can easily access information on any topic written by any person on the Internet. Therefore, it is necessary for us as clinicians to empower our patients to work with their doctors and ask questions, building a positive relationship that will allow them to make informed decisions.

Next was a panel of doctors who led a discussion titled Overcoming the Impact of Cancer Treatments: Cognition, Sexuality, and Physical Changes. The panelists included Elizabeth Boham, MD, RD; Dixie Mills, MD; and Aminah Keats, ND, who offered their opinions on treatments for various side effects of chemotherapy. As noted, one of the main side effects of hormonal treatments such as Tamoxifen and aromatase inhibitors is hot flashes. Some remedies for reducing hot flashes that were mentioned include: magnesium oxide, black cohosh, vitamin D (if levels are low), capsaicin, stress reduction, primrose oil, and decreased alcohol and caffeine intake. Dr. Mills discussed menopausal symptoms that occur with chemotherapy; some include weight gain, fatigue, and decreased adrenal function. Another side effect of chemotherapy discussed was chemo brain, which is observed as a decline in cognitive functioning due to chemotherapy. Dr. Boham explained that this would improve over time, and Dr. Keats suggested Docosahexaenoic Acid (DHA) and actyl-L-carnitine supplements for those experiencing some cognitive impairment during and after treatment. It was mentioned in the discussion that weight loss and increased exercise reduce the risk of reoccurrence of breast cancer.

The panel also discussed the changes in gastrointestinal function that occur after chemotherapy and the importance of probiotics. According to the panel, the keys to a good probiotic include the following: 15-30 billion active/live cultures, broad spectrum bacteria, and dairy-free for those who are sensitive to dairy. It is important to start with a low dose and build up slowly because probiotics can cause gas and bloating. It is also important to remember, however, that probiotics are contraindicated for those who are immuno-compromised. Other supplements that have been found to be beneficial to the GI tract during chemotherapy include glutamine and digestive enzymes.

Based on their experience, the three doctors recommended the following to alleviate general side effects of cancer treatment:
- Dr. Keats: CoQ10, L-carnitine, and B-vitamins for fatigue and cardiovascular support; Rhus tox, a homeopathic remedy for joint pain; vitamin D for those with low levels; and Traumeel®, which is a homeopathic product used to reduce muscle and joint pain.
- Dr. Boham: relaxation techniques (deep breathing, relaxation CD), whole foods, and daily activity.
- Dr. Mills: Adequate sleep and Mama Gena’s School of Woman Arts’ in New York City designed to help women improve their self-esteem, body image, and sexuality, post cancer therapy.

Dr. Boham gave a talk, A Functional Approach to Cancer, during the afternoon sessions. She practices functional medicine at the Ultrawellness Center in Lenox, Massachusetts. This informative lecture started out with a discussion of estrogen exposure and its role in increasing breast cancer risk. Estrogen exposure increases with the number of menstrual periods in a woman’s lifetime, with oral contraceptive use, hormone replacement therapy, and endocrine disrupters found in our environment. It was recommended that women reduce their exposure to Bisphenol A (BPA), Poly Vinyl Chloride (PVC), and pesticides to decrease estrogen exposure. This can all be accomplished by using glassware instead of plastic, eating organic food, and choosing foods without added growth hormones.

Adipose tissue is also a source of estrogen via the enzyme complex aromatase. This enzyme complex catalyzes the conversion of androgens to estrogens. A recent study from March 2011 found that women with the highest
liver’s functioning is decreased due to hormone binding globulin (SHBG). If the liver’s ability to detoxify and produce sex-cancer risk is because of its impact on the estrogen metabolite. Recommendations for improving estrogen metabolism include adding the following:

- Increase cruciferous vegetables such as broccoli to daily vegetable choices
- Indole-3-Carbinol and Sulforaphane supplements
- Fish oil supplements or regular source of salmon or other omega-3 fatty acids

Phase II detoxification also consists of glucuronidation, which is the process of glucuronic acid conjugating with potentially harmful compounds that are then excreted. As an example, estrogen binds to glucuronic acid and is excreted in the stool. Beta-glucuronidase is an enzyme that cleaves the glucuronic acid-estrogen compound and releases free estrogen. When this occurs in the GI tract, the free estrogen can get reabsorbed back into the blood stream. This can increase the amount of free estrogen in the body, thus increasing cancer risk. Three ways in which beta-glucuronidase can be elevated:

- A high meat/low fiber diet
- Imbalanced gut flora
- Pathogenic gut flora

Therefore, a diet high in fiber, fruits, and vegetables and the rebalancing of gut flora could potentially reduce the amount of estrogen that is reabsorbed from the GI tract. Calcium-d-glucurate supplements (1000 mg twice a day) can help bind estrogen in the gut for excretion.

Dr. Boham discussed important ways to improve estrogen metabolism. The following lifestyle and dietary changes promote the formation of 2-OH Estrone, which is a protective estrogen metabolite. Recommendations for improving estrogen metabolism include adding the following:

- Increase cruciferous vegetables such as broccoli to daily vegetable choices
- Indole-3-Carbinol and Sulforaphane supplements
- Fish oil supplements or regular source of salmon or other omega-3 fatty acids

Besides sleep, the importance of exercise in reducing breast cancer risk was also reviewed. A study published in 2005 in the Journal of the American Medical Association reviewed. A study published in 2005 in the Journal of the American Medical Association found that among women not using hormone therapy, those with higher insulin levels were 2.5 times more likely to have breast cancer over the next seven years as compared to those with lower insulin levels. Dr. Boham listed several ways in which people can improve their insulin sensitivity:

- Increase fiber to 35 grams per day
- Eat protein at each meal
- Increase omega-3 fats
- Eliminate trans fats
- Consume nutrient dense foods
- Exercise 40+ minutes per day
- Sleep 7-9 hours of sleep per night
- Manage stress

Besides insulin resistance, Dr. Boham spoke about the important role our body plays in detoxification. She explained that some people are better detoxifiers than others and that we can support our detoxification system by avoiding estrogen disruptors such as cigarette smoke, heterocyclic aromatic amines (charbroiled meats), and alcohol. In 2009, Allen et al., found that a woman’s risk for breast cancer increased 1% for each additional alcoholic drink consumed per day as compared to non-drinkers. One theory for why alcohol increases breast cancer risk is because of its impact on the liver’s ability to detoxify and produce sex-hormone binding globulin (SHBG). If the liver’s functioning is decreased due to alcohol, its ability to produce SHBG may be decreased, which in turn may increase circulating free estrogen. The liver also uses B-vitamins during detoxification of alcohol; this could lead to a decreased amount of B-vitamins available for other B-vitamin dependent processes including methylation during Phase II detoxification.

BMI had a 35% increased risk of triple-negative breast cancer, as well as a 39% increased risk of estrogen receptor-positive breast cancer. It was also found that the women with the highest level of physical activity had reduced risks of both of these types of breast cancer. Furthermore, research from 2002 found that among breast cancer survivors, those who were overweight or obese had an increased risk of having a recurrence as compared to those who weighed less.

Along with the importance of a healthy body weight, Dr. Boham talked about insulin and its role in cancer risk. A study in 2009 by Gunter et al., found that among women not using hormone therapy, those with higher insulin levels were 2.5 times more likely to have breast cancer over the next seven years as compared to those with lower insulin levels. Dr. Boham listed several ways in which people can improve their insulin sensitivity:
Breast Cancer Options

Association found that women who had been diagnosed with breast cancer had an improved survival outcome if they exercised 3-5 hours per week as compared to those who exercised less than three hours. The researchers found that those who exercised the equivalent of walking 3-5 hours per week experienced the greatest benefit.

In conclusion, Dr. Boham's recommendations for breast cancer prevention include the following:

- Vitamin D, if indicated
- Probiotics
- Diindolylmethane (DIM) or Indole-3-Carbinol (I3C) supplements
- Sulforaphane, naturally from cruciferous vegetables or from supplements
- Calcium-d-glucurate (1000 mg 2x per day)
- Fish oil (500 mg EPA & 500 mg DHA)
- B-vitamins – multivitamin with methylfolate for those who are consuming a moderate amount of alcohol or none at all
- Regular exercise – 40 minutes per day
- Whole foods – plenty of fruits and vegetables – 4-5 cups per day
- Healthy weight
- Fiber: 35 grams daily
- Protein at every meal – beans, nuts, fish, lean poultry and eggs
- Stress reduction techniques – deep breathing exercises, meditation
- At least 8 hours of sleep per night
- Less than 1 alcoholic drink per day or 5 per week; for those who drink more than a moderate amount a B-complex with methylfolate or STHF is suggested.

The conference concluded with a discussion about conference attendees’ experiences at the Breast Cancer Options conference. Women expressed increased self-esteem, hope, and empowerment. Many attendees found support and strength by coming together with other breast cancer survivors to learn about how to make positive lifestyle changes as well as build confidence in their ability to make informed medical decisions. It was an uplifting session that included a review of the services offered by the Breast Cancer Options organization in New York State.

Ashley Dunham is earning her master’s degree in nutrition science and completing her dietetic internship at Tufts University in Boston, MA. She has an interest in food sensitivities and looks forward to practicing in the field of functional medicine once she graduates. Contact Ashley at ashleydunham1@gmail.com or adunham@tuftsmedicalcenter.org.

References:

Good Read:
Return to Wholeness: Embracing Body, Mind, and Spirit in the Face of Cancer

A demonstration for readers of the value of integrating the best of traditional and alternative medicines with ancient Eastern, Ayurvedic principles and practices in order to forge the most effective path to wellness while facing cancer or any serious, chronic illness.

In conclusion, Dr. Boham’s recommendations for breast cancer prevention include the following:

CPE Article
Due to unforeseen circumstances DIFM DPG regrets that no CPE article is available for the spring 2011 issue. The article will be available in the summer issue, approximately mid-July. For current DIFM members (through May 31, 2011) who would like to read and obtain credit for the article, please email our Executive Assistant, Amy Jarck at info@integrativeRD.org. Once the article is published, Amy will send a link to the article where you will be able to view, read it, and apply for CPEUs. We regret any inconveniences this may have created.

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Resource Review

Herbal Medicine of the American Southwest: A Guide to the Identification, Collection, Preparation, and Use of Medicinal and Edible Plants of the Southwestern United States

Charles W. Kane

While travelling the highways of Northern Arizona, I happened on this book in a small town near two Reservations. This book is an excellent reference for anyone who is interested in the medicinal and edible plants used by Native Americans, and the traditional Hispanic herbal medicines used by those living in the desert southwest. It is well illustrated, organized, and appears to be accurately referenced.

The book informs readers of how to find and identify the plant, for what applications it can be used, what side effects may occur, how to prepare for use, and what other resources the reader might need to further identify the plant. The color pictures make identification of many of the plants easier. There are some personal notes from the author about finding and using some of the plants; more of these anecdotes would have been helpful.

The preface includes explanation of the format, or how the book is laid out. It describes the many preparations in which plants are used, from drying it and putting it into a capsule, to extracts, tinctures, and tonics. The appendix includes a therapeutic index listing conditions by systems (i.e., cardiovascular, gastrointestinal, for men and women) and which plant may be beneficial for the disease or health of the system. There is a complete section on weights and measures – apothecary, standard/cooking, metric, and more. Worksheet examples for percolation and extract preparation are given. The book concludes with an extensive bibliography followed by a glossary of medical and herbal terms that is quite complete.

This book is an excellent resource and would be a valuable addition to the library of anyone interested in herbal medicine, particularly those who live and practice in the Southwestern U.S.

Reviewed by Sarah Harding Laidlaw, MS RD CDE, DIFM newsletter editor. Contact Sarah at peaknut@cascadeaccess.com or 702-346-7968.

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 Supplementation, 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".
Chair’s Corner:
Deborah Ford, MS, RD, CCN

Spring has been late coming to most parts of the United States this year, but it is now in full swing and even hints of summer are in the air. Daffodils, iris, crocus, and the flowering bulbs that were deliberately planted last fall are now bursting forth with color and beauty.

Just as we plant bulbs in the fall in preparation of the anticipated results in the spring, it is the same with the efforts of the DIFM leadership team who planted the bulbs of education for our members and community. Some of the “bulbs” that are emerging will bloom at the American Dietetic Association’s Food & Nutrition Conference & Expo (FNCE) in San Diego in September, 2011. The summer newsletter and supplement will have more exciting news about our FNCE plans, so stay tuned. Regardless, please plan to attend FNCE in San Diego this fall as it will be a beautiful place to learn and grow as Dietitians in Integrative and Functional Medicine.

Another big and beautiful “bulb” that is bursting forth is the Standards of Practice and Standards of Professional Performance (SOP/SOPP), on which so many of us have worked over the last two years to write and rewrite. The publication of the standards is slated for summer 2011 in the Journal. This is an important step for DIFM as the role of educated and trained dietitians is developing into a powerful component of the health care team of integrative and functional practitioners. Of course, many of us consider that the ultimate outcome of this “bulb” is a certification/credentialing/boot camp for DIFM RDs.

Elections have been held and the ballots counted. The newly elected leaders that will carry on the work of DIFM include Chair-Elect Alicia Trocker, MS, RD who will provide active leadership with a passion for credentialing. Erica Kasuli, RD is the newly elected secretary, and Diana Noland, MPH, RD, CCN as nominating committee chair. It is with the selflessness of all the DIFM volunteers that we are able to continue to bring so many outstanding educational opportunities to the members of DIFM.

As my term of chair ends in June, I want to thank all the past and present leaders, including Amy Jarck, our tremendous executive assistant, who worked together as a team to help bring all the activities together. It has been an outstanding year of growth and opportunity for DIFM and I am proud to have been a small part of everything we accomplished.

Best to you always,
Deb

Congratulations to our newly elected DIFM Leaders!

CHAIR ELECT
Alicia Trocker, MS, RD
Alicia lives in California and is an outpatient dietitian at UCLA Medical Center as well as a medical student preceptor and lecturer at UCLA School of Medicine. In addition, she is a private practice practitioner. Alicia currently serves as the DIFM Network Chairperson.

SECRETARY
Erica Kasuli, RD
Erica is a counselor, entrepreneur, educationalist, researcher and pioneer within the field of nutrition. She is a consultant in business plan and marketing development for medical and nutrition private practices. She is a nutrition consultant for The Optimal Health and Prevention Research Foundation and The UltraWellness Center coaching programs. Over the past six years, Erica has been the nutrition assistant to Mark Hyman, M.D. and Kathie Swift, MS, RD, LDN and collaborated in developing the menu and recipe plans for the New York Times bestsellers, UltraMetabolism, The UltraMind Solution, and The Ultra Simple Diet written by Mark Hyman, M.D.

NOMINATING COMMITTEE CHAIR
Diana Noland, MPH, RD, CCN
Diana owns a busy Integrative & Functional Medical Nutrition Therapy (IFMNT) private practice in Northridge, California. Recognized for her expertise in the clinical application of IFMNT, Diana is an international speaker and contributing author of several books on integrative nutrition. She is on faculty for the Institute for Functional Medicine. Diana is also a member of the ADA DIFM DPG SOP/SOPP Committee currently developing the Standards of Practice for DIFM Medicine to be published in the Journal in 2011.

NOMINATING COMMITTEE MEMBER
Stephen J. Roch Jr., RD, LDN, CFT
Steve is owner of BestRD Wellness, LLC, located in Metairie, Louisiana where he provides Medical Nutrition Therapy. In addition, he is a speaker, writer, and certified fitness trainer. He brings to DIFM a strong background of volunteering and experience with state dietetic executive committees.
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Spring 2011 Volume 13, Issue 3
Page 79