Vegetarian Nutrition
a dietetic practice group of the
Academy of Nutrition and Dietetics
Experts in Plant-Based Nutrition

VEGETARIAN NUTRITION Update

VOLUME XXXI, NUMBER 6, 2020

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IN THIS ISSUE!

SUBMISSION INFORMATION

We welcome submissions and articles from our members. Please contact the editor.

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VN DPG **VISION:** ***To optimize global health and well-being by creating and disseminating vegetarian nutrition educational materials, supporting cutting-edge research and developing influential policy.***

MESSAGE FROM THE CHAIR

BY: PARUL KHAROD, MS, RD, LDN - *2020-2021 VN DPG Chair*

HELLO FELLOW VN MEMBERS,

I hope that the past few months have been kind to you and your family. This year has seen a lot of upheaval and grief and people may not have enjoyed summer as they usually do. However, the nature of seasons is that they turn, and I trust that together, we can march forward with the hope of a better future.

As mentioned before, we are continuing with our goal to champion diversity and sustainability. I hope you enjoyed the launch of our diversity column that was initiated by our Diversity Liaison, Sheetal Parikh in the summer issue of our newsletter. We will feature related topics on our website in the coming months. We have created a VN DPG Sustainability Team and we will continue to add resources related to new teams and task forces as well as other resources on our website as well. We are collaborating with other DPGs and will continue to engage in activities to fulfill our strategic goals. I would like to remind you all to please continue to be focused and involved in public policy news and respond to action alerts promptly.

This is the first time in the history of the Academy that FNCE® will be virtual. Apart from the educational sessions, we will have a virtual DPG showcase. VN DPG will also have a virtual member networking event, and we are hoping that most of our members will be able to join. We have been brainstorming for activities that are engaging and fun and we hope you will find it useful and meaningful!

My hope is for all of us to be more interactive and to facilitate dialogue. Please feel free to share your thoughts and opinions, and reach out to me with questions or concerns. I thank you for being part of this unique and amazing group.

Stay safe and be well.

Warm regards,

Parul Kharod, MS, RDN, LDN
chair@vndpg.org

VN DPG **MISSION:** ***To empower members to be the leading authority on evidence-based vegetarian nutrition for food and nutrition professionals, health practitioners and the public.***

FROM **THE EDITOR:**

BY: DEBORAH MURPHY, MS, RDN
2019-2020 VN DPG Editor

WELCOME TO THE FALL EDITION of the VN DPG newsletter!

This has been a summer like none other with major climate events, social upheaval over racial justice, and the global COVID-19 pandemic. Despite it all, time marches on and we look forward to events on the horizon this fall. FNCE® 2020 will be virtual this year, but you will still have opportunities to connect with fellow VN DPG members and VN DPG leadership. See our "where to find VN DPG at FNCE®" section to learn more.

In this edition of the newsletter, we are highlighting some of our past VN DPG research grant award recipients. Reed Mangels PhD, RDN received the award in 2016 and published her findings last year with co-principal investigator and fellow VN DPG member, Irana Hawkins, PhD, MPH, RDN, in the journal *Frontiers in Nutrition.* Reed provided a summary of her research for the newsletter. Jessica Garamond PhD, RDN, FAND received the grant in 2019 for her research proposal, Inflammatory Markers and Diet Quality Among Vegetarian Versus Non-Vegetarian Female Collegiate Athletes. She shares her initial literature review for the project in this newsletter and hopes to begin data collection soon. You can find more information about how to apply for our $10,000 VN DPG research grant on our website. The next grant will be awarded in 2022.

I also wanted to highlight the new RD Resources available on our website: *Omega-3 Fatty Acids and Vegetarian Diets* and the consumer version of the *Vegetarian Diets in Pregnancy* now written in Spanish. Sheetal Parikh, MS, RDN, LDN our VN DPG Diversity Liaison has also been working on a new diversity section of the website where you can find anti-racism resources and interviews with fellow VN DPG members.

I hope you enjoy this edition of the newsletter. Feel free to reach out to me if you want to contribute to future newsletters or offer any feedback.

Deborah Murphy MS, RDN
debbie@dietitiandebbie.com

NEW RD RESOURCES AVAILABLE!

BY TAYLOR WOLFRAM, MS, RDN, LDN, RD RESOURCE CHAIR

OMEGA 3 FATTY ACIDS AND VEGETARIAN DIETS

For Professionals: VN DPG is excited to announce the brand new *"Omega-3 Fatty Acids and Vegetarian Diets"* RD Resource for Professionals! This RD Resource explains the types and functions of omega-3 fatty acids, chronic disease risk, provides evidence-based recommendations for ALA, supplements, and more.

For Consumers: Check out the brand new *"Omega-3 Fatty Acids and Vegetarian Diets"* RD Resource for Consumers! This consumer-friendly resource explains what omega-3 fatty acids are, the types of fatty acids, the relationship between omega-3s and disease, and more. It also includes omega-3 intake recommendations and plant-based sources of ALA.

VEGETARIAN DIETS IN PREGNANCY (SPANISH)

For Consumers: Check out the NEW *"Vegetarian Diets during Pregnancy"* for Consumers written in Spanish! This RD Resource provides information on the essential nutrients needed during pregnancy and includes a sample vegan menu.

¡Mira nuestro nuevo recurso en español *"Dietas Vegetarianas Durante el Embarazo"*! Este recurso de nutricionistas registrados para el consumidor proporciona información sobre nutrientes esenciales necesarios durante el embarazo e incluye un ejemplo de un menú vegano.

PLANT BASED DIETS TO COMBAT CLIMATE CHANGE

For Professionals: Just updated: ***"Plant-Based Diets to Combat Climate Change and to Protect Planetary Health"*** for RD Resource for Professionals! This RD Resource provides strategies to promote planetary health with plant-based diets, as well as an overview of the science that links human activity to increasing greenhouse gas emissions.

For Consumers: Check out the newly updated ***"Plant-Based Diets to Combat Climate Change and to Protect Planetary Health"*** RD Resource for Consumers! This consumer-friendly resource explains how the modern food systems negatively impact human health and the environment, information about planetary health and boundaries, and more. It also includes tasty plant-based meal options and other sustainability tips!

ATTENDING THE FIRST EVER *VIRTUAL* FNCE® 2020 | **OCTOBER 17-20?**

JOIN OTHER VN MEMBERS AT THE FOLLOWING EVENTS AND SESSIONS:

THURSDAY, OCTOBER 15, 2020

VN DPG Member Networking Event – Virtual Cooking Demo on Zoom with Chef Jocelyn Ramirez.

- **Time:** 6:30-8:00 PM (EST)
- **Location:** Click here to register
- **More about Chef Jocelyn Ramirez:** Jocelyn is the chef and founder of the plant-based food company, Todo Verde, and co-founder of food-based organization, Across Our Kitchen Tables. She is a social media influencer passionate about plant-based food, yoga, zero waste, and female entrepreneurship. Jocelyn's goal is to inspire women to reach their dreams and experience their full potential as the best versions of themselves. She loves to share brands that align with her values and goals.

This event is open to members and non-members, FNCE® registration is not required to attend.

SUNDAY, OCTOBER 18, 2020

11:30 AM – 12:30 PM (CST): Diabetes Reversal from Plant-Based Eating: Reality or Fallacy?

- Meghan Jardine, MS, MBA, RDN, LD, CDE, VN DPG member and Associate Director of Diabetes Nutrition Education for the Physicians Committee for Responsible Medicine will be presenting.

4:00-5:00 PM (CST): Asian Cuisine: Beyond the Soy Sauce

- Manju Karkare MS, RDN, LDN, CLT, FAND our VN DPG Social Media Chair will be participating in this panel.

MONDAY, OCTOBER 19, 2020

1:30-3:30 PM (CST): Virtual VN DPG Showcase

- Chat with VN DPG leadership and explore all the member benefits VN DPG has to offer.

TUESDAY, OCTOBER 20, 2020

10:00 – 11:00 AM (CST): The Emerging Benefits of a Plant-Forward Approach to the Chronic Kidney Disease Diet

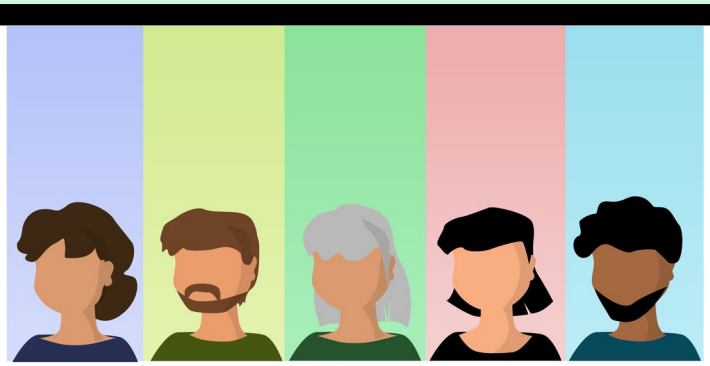
- VN DPG Speakers' Bureau Chair Annamarie Rodriguez, RDN, LD, FAND is co-presenting this session with Dr. Kam Kalantar-Zadeh; moderated by our VN DPG RD Resources Chair Taylor Wolfram, MS, RDN, LDN

11:30-12:30 AM (CST): Mastering Mastermind Meeting

- VN DPG Members Ginger Hultin MS, RDN, CSO and Vandana Sheth, RDN, CDE, FAND will be participating in this panel discussion

DIVERSITY & INCLUSION COLUMN

BY SHEETAL PARIKH, MS, RDN, LDN & DIVERSITY LIAISON CHAIR



AS I WAS DECIDING on the topic for our diversity column, yet another controversial case hit the news cycle. I am sure that you are now aware of the police shooting case involving a 29-year old named Jacob Blake who was shot several times and was left partially paralyzed During this incredibly challenging and somber period of our history, I could not stop thinking how every African-American family may be thinking and feeling and realized how important it is for all of us to be aware of the importance of mental health support that Black individuals and families may have.

While I was looking into more information, I came across this article by Dr. Alfiee Breland-Noble, psychologist, author, founder of mental health nonprofit the AAKOMA Project, in which she states:

> "Research has established that African Americans are at exponentially greater risk for health problems due to prolonged exposure to systemic racism, institutionalized discrimination, macroaggressions and chronic stress. The cumulative effect of these issues creates a weathering effect on our minds and bodies, leaving us more vulnerable to disease and poor mental well-being. I want this to stop for us all but especially for our young people. Though we cannot always stop the physical violence perpetrated against us, I believe we can and must fight for our mental well-being. To do so, we must first name our experiences, then utilize coping tools, a practice we call *active coping*. For children and teens, strategies include parental *active* curation of news consumption and affirming open lines of communication. For adults, strategies include prioritizing your mental health, stopping continuous news consumption, using social media sensitivity filters and knowing when to reach out for help. During this time, it would be easy and understandable for any of us to yield to numbness, but we must resist by acknowledging that we are hurting and that we have the capacity to actively cope. While we cannot always physically be on the front lines, our fight for equality is ongoing and I want you to have the emotional bandwidth to contribute your gifts and talents freely and as you so choose (1)."

My take from these sentences is to be mindful of your thoughts and reactions since they always speak louder than your actions. This means making invisible influencers visible and being aware of the impact of unconscious bias on others by challenging assumptions, encouraging diversity of experience, opinion, and expression, and supporting a society that actively strives to be inclusive while incorporating strategies to mitigate the impact of unconscious bias on community members. It is important that we view ourselves from within and we do not judge others based on the beliefs and norms that we may have based on just our own cultural background. When we recognize this, I believe we can make this world a better place to live for all.

Also, please check out our website for a new section where we will be highlighting the various cultures, races, ethnicity of our diverse and vibrant VN DPG community. A few of our members have been highlighted by the time this fall edition of our VN newsletter is out so if you have not read the profiles of our beautiful members yet, please do!

With care, Sheetal

References:

1. *Breland-Noble A. Black mental health matters now more than ever. Medium. https://medium.com/@dralfiee_82052/black-mental-health-matters-now-more-than-ever-9cbc705f60d1 Published May 31, 2020. Accessed August 30, 2020.*

***Sheetal Parikh** is a dietitian from India and has been vegetarian all her life. She believes that "**you are what you eat**". She currently is an author for plant-based nutrition and advocates vegetarian nutrition in her practice and counseling. She loves to create new recipes and cook healthy and yummy plant based meals for her colleagues, friends and family.*

2016 VN DPG RESEARCH GRANT RECIPIENT:
VEGETARIAN AND VEGAN NUTRITION INSTRUCTION IN ACCREDITED DIETETICS EDUCATION PROGRAMS IN THE UNITED STATES

BY REED MANGELS, PHD, RDN AND IRANA HAWKINS, PHD, MPH, RDN

IN 2016 OUR RESEARCH TEAM consisting of Robert Goldman, PhD, (biostatistician), Richard Wood, PhD, and the two of us (co-principal investigators) applied for and was awarded an Academy of Nutrition and Dietetics Foundation/Vegetarian Nutrition Dietetic Practice Group Research Grant to conduct a study entitled *The Prevalence of Vegetarian and Vegan Nutrition Instruction in Accredited Dietetics Education Programs in the United States*. This grant allowed us to investigate curricular practices regarding vegetarian and vegan nutrition. To our knowledge, this is the first study published on the topic in the United States in the scholarly literature (1)—and perhaps the only such analysis in the entire world at the time of publication. Our results will help inform and improve dietetics education and practice. We appreciate the support of VN DPG and the Academy of Nutrition and Dietetics Foundation and summarize our results in this article and offer ways for VN DPG members—the experts in plant-based nutrition—to help dietetics educators increase vegetarian and vegan content in dietetics education programs as overwhelmingly, program directors support teaching vegan and vegetarian nutrition—but gaps in practice are evident.

Study Objectives

The overarching goal of our study was to investigate (1) the prevalence and perceived importance of vegetarian and vegan nutrition instruction and (2) if program directors connect vegetarian and vegan diets to climate change mitigation, resource conservation, and reducing impact on the natural environment. We also investigated teaching methods and innovations; how protein requirements are taught; and how "plant-based diets" are defined in dietetics education. Our next publication (in progress) will discuss those findings.

Methods

All directors of programs accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) in the U.S. were contacted in 2017 and asked to complete an Internet-based survey. A total of 574 program directors including 219 directors of Didactic Programs in Dietetics (DPDs), 257 Dietetic Internship (DI) directors, 61 directors of Coordinated Programs in Dietetics (CPDs), and 37 Dietetic Technician Program (NDTR) directors were invited to participate. Additional details of the study's methods and survey questions can be found in our recently published article (1).

Results

Responses were received from n=205 program directors encompassing all four program types with the largest response from DI directors. Over 51% of respondents stated that vegetarian nutrition is taught in their program; almost 49% indicated that vegan nutrition is taught. There was a significant difference ($p = 0.00005$) between the type of ACEND-accredited program and prevalence of teaching vegetarian or vegan nutrition. Vegetarian nutrition was taught in 80% of NDTR programs, in 76% of DPD programs, in 73% of CPD programs, and in 25% of DIs. Vegan nutrition was taught in 90% of NDTR programs, 73% of CPD programs, 71% of DPD programs, and 23% of DIs.

Over 90% of program directors strongly agreed (48%) and agreed (43%) that vegetarian nutrition should be taught while nearly 44% strongly agreed and 43% agreed that vegan nutrition should be taught. More than 90% of program directors perceived that students' attitudes toward vegetarian and vegan diets are favorable.

When asked about the connection between vegetarian and vegan diets and the environment, 50% of respondents identified the connections between vegetarian and vegan diets and climate change mitigation, resource conservation, and reducing impact on the natural environment.

Implications and Action

Clearly, program directors overwhelmingly recognize the need for vegetarian and vegan nutrition instruction and perceive that their students are interested in vegetarian and vegan nutrition. Despite this, there is room for closing

the gaps between perceived importance and practice-based behaviors.

There are many factors that could explain this discrepancy: Lack of confidence in teaching about vegetarian and vegan nutrition; an inability to provide instruction about the connections between vegetarian and vegan diets, food systems, and the associated degradation of the natural environment. DI's are more likely to exclude vegetarian and vegan nutrition instruction which could be due to perceived competencies acquired before the DI experience. However, as the DI is an applied practice-based experience, increasing vegetarian and vegan nutrition instruction during this training experience could improve self-efficacy and ultimately, improve patient health outcomes.

The ACEND Accreditation Standards do not mandate vegetarian and vegan nutrition instruction. While some competencies could encompass vegetarian and vegan nutrition, such as those related to health promotion and disease prevention, the development of competencies that specifically address vegetarian and vegan nutrition could be a way to promote the inclusion of vegetarian and vegan nutrition in all programs. This is one area in which VN DPG experts can get involved – first by documenting the need for formal instruction about vegetarian and vegan nutrition in ACEND-accredited programs—and then by working to develop competencies in this area.

Many VN members are aware of the many health and environmental benefits of vegetarian and vegan diets and can serve as resources to dietetics educational programs as well. The ACEND Accreditation Standards do include environmental sustainability competencies. Thus, with the well-documented connections between diet and planetary health and diet-chronic disease—VN DPG members have a valuable skill-set that can be used in a myriad of ways to help guide dietetics education.

Potential actions include:

- Contact programs in your area and offer presentations about vegetarian/vegan nutrition in courses such as introductory nutrition, life-cycle nutrition, medical nutrition therapy, nutrition and disease prevention, community nutrition, food systems, and food principles.
- Contact programs and offer to answer questions faculty have about vegetarian and vegan nutrition or a presentation on resources for learning and teaching about vegetarian and vegan nutrition.
- Offer to teach a course related to vegetarian or vegan nutrition.
- Offer to mentor students who are interested in working on a project or an independent study related to vegetarian and vegan nutrition.
- Share RDN Resources with program directors.
- Help programs develop case studies that include vegetarians and vegans.
- If you are a preceptor for dietetic interns, discuss and model the practical application of vegetarian and vegan dietary principles. Encourage interns to develop client educational materials that promote plant-based diets.
- Offer cooking demonstrations (virtual or per COVID-19 protocols).
- Encourage dietetics educators to join VN DPG.
- Work with the Academy to promote the Certification in Vegetarian Nutrition to dietetics educators.
- Demonstrate how dietetics educators can use the Academy's Evidence Analysis Library for relevant evidenced-based information about vegetarian/vegan nutrition.
- Form a subcommittee within VN DPG to examine ways to help improve vegetarian and vegan instruction dietetics education.
- Lastly, if you'd been successful in working with a dietetics education program, share your experience with other VN members on our EML.

References:

1. *Hawkins IW, Mangels AR, Goldman R, Wood RJ. Dietetics program directors in the United States support teaching vegetarian and vegan nutrition and half connect vegetarian and vegan diets to environmental impact. Front Nutr. 2019;6:123. doi:10.3389/fnut.2019.00123*

Dr. Irana Hawkins *teaches and mentors doctoral students in public health at Walden University. She is a researcher, a Master Composter, and a Native Plant Steward. Her scholarly work focuses on the nexus of whole plant foods nutrition, planetary health, zero waste practices, sustainable food systems, and biodiversity preservation. Her forthcoming book entitled Creating Planetary Resilience with Food and Health (CRC Press) will be published in 2021.*

Reed Mangels, PhD, RDN *is a nutrition advisor for the Vegetarian Resource Group. She is a past chair of VN DPG and a co-author of two position papers on vegetarian diets.*

BOOK REVIEW

BY TIMAREE HAGENBURGER, MPH, RD, ACSM EP-C

The Plant-Based Boost: Nutrition Solutions for Athletes and Exercise Enthusiasts, by Melissa Halas, MA, RDN, CDE (paperback ISBN: 978-1-7339692-2-2, Hardcover ISBN: 978-1-7339692-3-9, and eBook/Kindle ISBN: 978-1-7339692-4-6) For more information: **https://www.melissashealthyliving.com/products/**

The views expressed here are those of the book reviewer and not those of VN DPG or the Academy.

MELISSA HALAS has been a practicing RDN and nutrition educator for over 20 years. In addition to her sports nutrition counseling work, she has extensive experience with nutrition-related course development and implementation, is a prolific author of both print and online articles, makes regular TV appearances and is the current media representative for the California Academy of Nutrition and Dietetics and parent nutrition expert for People.com online magazine. She is the creator of MelissasHealthyLiving.com and SuperKidsNutrition.com, a "mega-site" and abundant source of information, activities and other interactive and engaging resources for kids and family nutrition.

While the *The Plant-Based Boost* is largely geared to a consumer/client audience, it has a bit of a "choose your own adventure" feel to it, with the option for readers to skip certain "science-heavy" sections if they prefer. This isn't a large book, but a quick scan of the table of contents, and list of 343 citations, reveals the very impressive breadth of coverage. It is organized like many nutrition books, with parts devoted to each of the macronutrients, hydration, special considerations for vegans and vegetarians, phytonutrients, supplements and ending with meal and snack ideas. The author's experience in nutrition education comes through as the sections within each part are broken up into digestible bites by topic headings to make it easy to find specific content, as well as assist with comprehension and focus. "Nutrition/Food Tips/Facts" and "Your Turn" boxes add visual interest and highlight certain material.

For the athlete that picks up the book, a "How To Read This Book" piece provides guidance as to specific content of interest based on different categories of sports/athletes. A very strong attribute of the book is the inclusion of 40+ charts and tables, like "Snack Options with 20-30 grams of protein and 2-4 servings of carbohydrate" and "Plant and Animal Sources of Iron." Although the book does include animal products, it consistently sings the praises of the plant-based options, including three "Food Features" which are vegan as well as five of the "Ten Quick & Easy Meals and Snacks to Maximize Muscle Growth." Advice is given about protein combining throughout the day, instead of at a given meal, followed by a tip about adding a source of plant-based protein to each meal and snack. Protein calculations are discussed, followed by a sample meal plan to meet those protein needs with 100% plant-based choices and another "Plant-based Protein Boost" plan includes animal products (dairy, chicken and fish) along with plant foods which contribute protein, namely oats, nuts, beans, veggies and lentil pasta. There is also a thread of appreciation for the environment and attention given to making choices that help "keep the outdoors happy" woven throughout, and even includes a discussion of "new" plant-based protein options as potentially sustainable choices for the future.

The carbohydrate section (Part 2) is very detailed, with special focus on whole grains, legumes, and flours made from nuts, grains and roots. Fiber and a step-by-step approach to increasing fiber is followed by information about carbohydrate loading and timing. A few highlights from the information about fats include helping the reader be critical of coconut oil and MCT oil marketing and addressing the ketogenic diet in some detail.
Part 4 is devoted to special considerations for vegans and vegetarians and begins with nutrients of concern, including vitamin B12, calcium, vitamin D, iodine, iron, zinc, and omega-3s, with succinct info about what, why, how much, food sources, deficiency, toxicity and unique characteristics for each. Several different dietary patterns are discussed, including Mediterranean, DASH, MIND and Nordic, as well as the International Olympic Committee Athlete's Plates for different training "days" (light/moderate/hard-race).

The section about phytonutrients (Part 5) gives the reader an appreciation for their amazing attributes, with charts providing detailed benefits coupled with practical advice about increasing intake via food sources (e.g., onions, broccoli and apples for quercetin). A substantial amount of content is devoted to supplements and ergogenic aids (Part 6), which begins with a discussion of ergogenic

aids, safety concerns and different types of product certifications. This is followed by a review of animal-based protein powders, plant-based protein powders, caffeine, creatine, tart cherry juice, beet juice, glucosamine, arginine, HMB, branched chain amino acids and more, including a few banned substances, and a section about herbs and spices. The final part of the book provides ideas for mixing and matching foods to create bowls and plates as well as smoothies and invites the reader to check out the companion cookbook.

The Plant-Based Boost Cookbook, by Melissa Halas, MA, RDN, CDE, (paperback ISBN: 987-1-7339692-1-5), begins with a short narrative about the author's transition to a more plant-based diet and then jumps right into an extensive list of "recipe add-ons" that can be used to personalize recipes found in the book, organized by category (protein boost, carbohydrate boost, healthy fat boost, flavor boost/condiments, sweet boost and phytonutrient boost). Since each of the recipes include nutrient analysis, the list of "recipe add-ons" is followed by the nutrient content of each. While all of the carbohydrate, healthy fat and phytonutrient boosts listed are 100% plant based, the protein boosts, flavor boosts/condiments and sweet boosts include an array of animal products.

The remainder of the book is devoted to 100+ recipes, organized by meal, snack/side, and dessert and are adorned with symbols corresponding to the following: pesco-vegetarian, vegetarian, vegan, and/or gluten-free. The recipes are formatted to make them easy to read, with a clear font and ample white space, with the majority also fitting on a single page. The instruction steps are numbered and easy to follow and many of the recipes include a picture.

Breakfast recipes include: Pineapple Carrot Muffins, Banana Bread Pancakes, Peanut Butter Apple Oats, Amaranth Breakfast Porridge, Ranchero Tofu Scramble, and several smoothies, like the Zesty Raspberry Protein Smoothie. The Lunch and Dinners begin with a Simple Miso Soup and Colorful High-Protein Pasta Salad, with many more salads and soups recipes throughout the section. Curried Chickpeas, Chile Lime Tempeh Tacos, Middle-Eastern Eggplant Pita, Melissa's Sloppy Joes and Mushroom Sunflower Seeds Burgers among others, will appeal to a variety of taste preferences. Olive oil is used throughout, but likely could be omitted in most recipes, if desired. A few recipes include chicken. Snack and Sides includes an array of vegan, vegetarian and gluten-free recipes, such as Spicy Squash Seeds, Sesame Spinach Saute, Mini Egg Frittata, "Cheesy" Greens, Hummus Loaded Sweet Potato, Zucchini Latkes with a Whipped Goat Cheese and Mint Sauce, and Moroccan-Style Cauliflower. The Plant-Boost Cookbook ends with desserts, with several that call for eggs including Tiger Nut Flour Donuts and the brownie recipes. A few also include Greek yogurt and/or protein powders, such as Lemony Blackberry Chia Pudding and Whey Protein Peanut Butter Cookies, Chocolate Chip Oat Protein Bites and Sweet & Savory Pumpkin Bowl.

This companion cookbook to ***The Plant-Based Boost: Nutrition Solutions for Athletes and Exercise Enthusiasts*** provides a wide variety of recipes with opportunities to lean into a more plant-based diet while including animal products for those who may not be ready to adopt a fully plant-based eating pattern but want to increase more plants on their plates.

VN DPG RESEARCH GRANT INFORMATION

BY LINDA RANKIN PHD, RD, FADA

THE VN DPG ENDOWED Research Grant was established in 2008 to fund research relating to vegetarian nutrition. The original monies resulted from a class action lawsuit, Block v. McDonald's Corporation.

To date, seven researchers have received awards. Here is a list of previous awardees. The grant is awarded when sufficient funds are available to make a $10,000 award, typically every two years. Due to lack of funds, an award will not be made in 2021 but we are hopeful that funding will be available for a 2022 award, with applications accepted beginning in fall 2021. Check out the Criteria Document for eligibility requirements as well as the scoring criteria for grant submissions. Note that preference is given to applicants who have been VN DPG members for two or more years.

Please consider donating to the Academy Foundation and selecting the VN DPG Research Grant Fund as the recipient of your gift.

2019 VN DPG RESEARCH GRANT RECIPIENT:

CAN A VEGETARIAN EATING PATTERN BENEFIT ATHLETES?

BY JESSICA L. GARAY, PHD, RDN, FAND

NUTRITIONAL STATUS is an important contributor to overall athletic performance (1). A single bout of exercise, particularly high-intensity exercise, has been shown to induce oxidative stress and increase the formation of reactive oxygen species (ROS) (2-4). The presence of antioxidants in the body can reduce the damage caused by ROS (5,6). Thus, it is advantageous for athletes to consume a diet high in antioxidants and other nutrients with an anti-inflammatory effect to offset the detrimental effects of exercise-induced oxidative stress. As we all know, vegetarian diets are typically abundant in antioxidants and have an anti-inflammatory effect on the body compared to omnivorous diets.

Currently, 4% of the adult population in the United States follows a vegetarian diet, with approximately half of those individuals following a vegan diet (7,8). Females are more likely than males to follow a vegetarian or vegan diet (8). The prevalence of vegetarian or vegan diets among athletes in the United States is unknown. A single study of individuals competing in the Delhi (India) Commonwealth Games suggests that a vegetarian diet was followed by 7% of athletes, but an additional 13% reported not consuming red meat (9).

Past research has shown that adherence to a vegetarian diet leads to higher levels of antioxidants (ascorbic acid, β-carotene and α-tocopherol) and lower levels of stress markers in the blood compared to non-vegetarians (10,11). A recent systematic review and meta-analysis concluded that consuming a vegetarian diet was associated with lower levels of the inflammatory biomarker C-reactive protein (CRP), but only for individuals who have been on the diet for a minimum of 2 years (12).

Beyond CRP, additional biomarkers have shown an association with inflammation. Uric acid can indicate inflammation, metabolic syndrome, and endothelial cell dysfunction (13-15). Certain types of animal proteins are known to be high in uric acid, and past studies have demonstrated that a vegetarian diet is associated with lower uric acid values than omnivorous diets (10,16). The effect of exercise on uric acid levels has mixed results in previous research. In one instance, uric acid levels increased as a result of an ultramarathon race compared to several days sedentary (17). Another study suggests there was no difference in uric acid levels between subjects who were exercise trained and those who were considered sedentary (18). Lastly, a cross-sectional study found that male cyclists and skiers had lower uric acid levels than sedentary controls (19).

Omega-3 fatty acids are of interest with respect to inflammation. A small body of research suggests an anti-inflammatory effect (20), but this has primarily been seen in individuals who are critically ill (21). In an athletic population, omega-3 fatty acids have been shown to improve endurance exercise performance (22,23) although the overall impact of omega-3 fatty acids on athletes is still inconclusive (24,25). Omega-3 fatty acids, in particular docosahexaenoic acid (DHA), can reduce the oxygen cost of endurance exercise (22,23), improve pulmonary function (26), and possibly support recovery from concussion (27), when included in the diet or taken as a supplement. Measurement of the omega-3 index, which reflects the sum of DHA and eicosapentaenoic acid (EPA) levels in blood, reveals low levels (below 8%) among college athletes (28), college football players (29), and elite winter sport athletes (30). Low omega-3 index scores may serve as markers of cardiovascular disease risk (31) and are associated with poor executive function (32) and depression (33). One study found a significant negative correlation between omega-3 index and anxiety among female college athletes (34).

The inflammatory potential of diets has been evaluated using the Dietary Inflammatory Index (DII), which is generated from a 24-hour dietary recall. The DII correlates with blood levels of CRP and an additional inflammatory biomarker, the cytokine interleukin-6 (35-37). One recent study found that individuals who follow a plant-based diet have better DII scores compared to individuals who consume meat (38). In addition to overall diet quality, soy protein has been proposed as having anti-inflammatory properties, although results are mixed. Most research demonstrating an anti-inflammatory effect has focused on vascular function in post-menopausal women (39-41), although consistency of this effect is

debatable (42). Among athletes, only two recent studies have been identified that investigate the possible relationship between soy protein intake and attenuation of exercise-induced inflammation. A small study of male athletes demonstrated a positive effect of soy protein supplementation on CRP and creatine kinase levels (43). Among female endurance athletes, soy protein did not appear to be as effective as whey protein in reducing oxidative damage over a 6-week period (44). Therefore, more research in this area is needed to determine whether soy protein intake affects oxidative stress levels brought about by exercise.

To our knowledge, there has been limited research investigating the benefits of a vegetarian diet for athletic populations. Based on past literature, we expect that the anti-inflammatory effects of a vegetarian diet would benefit individuals who engage in high-intensity exercise. In order to address this hypothesis, we developed a study to investigate whether a) inflammatory biomarkers and/or b) overall diet quality differed between vegetarian and non-vegetarian female collegiate athletes. This study is funded by the Vegetarian Nutrition DPG, and we are grateful for the opportunity to conduct research on this important topic.

Our project is an observational study of female collegiate athletes from our institution. Participants visit our lab for measurement of body composition, resting metabolic rate, and resting heart rate and blood pressure. A blood sample is used to determine hemoglobin level, a fatty acid profile (including omega-3 index), and levels of uric acid and CRP. Participants complete three days of 24-hour dietary recalls and two different food frequency questionnaires: one is focused on soy food intake (courtesy of the Fred Hutchinson Cancer Research Center), and the other is focused on omega-3 intake (45).

We hope to reach a total enrollment of 60 participants, including 20-30 vegetarians. Our project was halted in spring 2020 due to COVID-19 and has yet to resume data collection. At present, we have obtained data on 16 individuals. Unfortunately, only one is a self-reported vegetarian. We have performed some initial data analysis using the resting metabolic rate, body composition, and dietary intake data. The results of this work will be presented in a poster abstract at FNCE® 2020. The title is: Energy Availability in Female Collegiate Athletes: A Pilot Study.

This project was developed in response to observed interest in vegetarian diets among female athletes as well as growing opportunities for Registered Dietitian Nutritionists (RDNs) to provide nutrition education to collegiate athletes about overall diet quality. We hope that our results will both highlight the need for sports nutrition professionals to closely monitor collegiate athletes and support the potential benefits of a vegetarian diet for female collegiate athletes. We look forward to sharing more results with VN DPG members as we conclude data collection. Thank you very much for your support of research in this area.

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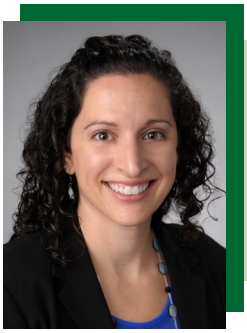

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STATE COORDINATOR SPOTLIGHT

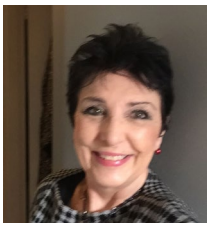
BY: KATYA GALBIS, LD

JUST LIKE THAT, we are now halfway into 2020. This year has been challenging for most of us but has forced us out of our comfort zones and created the need for innovative ideas on how we do things, especially on how we connect. Since we have limited opportunities to network in person due to the novel COVID-19, VN DPG has come up with innovative ideas to allow members to engage and network in the virtual realm. One example is our new virtual Journal club. All are invited to participate. Please stay tuned for more information. If you have other ideas on how to engage virtually, please let us know. You can either contact me directly or talk to your state coordinator.

If you find your state with no state coordinator, please consider becoming one. Becoming a coordinator is a great way to get involved in the VN DPG. Many coordinators have gone on to other leadership roles. The best part of this position is that it will give you the opportunities to meet and connect with members locally. No prior experience is necessary and any member can become one (students, active, retirees, RDT, etc.) We are currently looking for volunteers for the following states: **Arkansas, Southern California, Delaware, Indiana, Kentucky, Maryland, Minnesota, Mississippi, Nevada, New Hampshire, New York, Ohio, and Virginia.**

We are currently 1,376 members and growing. Please reach out to your colleagues, friends, and students, and invite them to become members! We can increase our impact with more members. Lastly, as the VN DPG membership chair, I encourage you to discover and to take advantage of all the great benefits that the VN DPG offers. Put your membership to work! You can find the list of benefits on our brand new website.

Thank you for your membership and for all that you do!



POLICY AND ADVOCACY LEADER (PAL) UPDATE

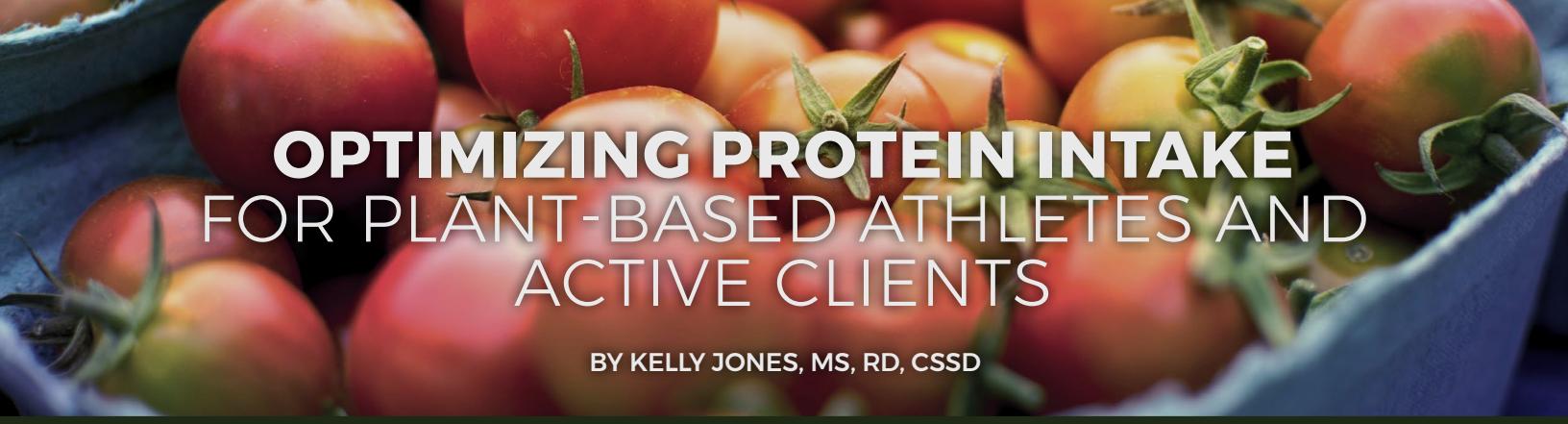
BY CATHERINE CONWAY, MS, RDN, CDN, CDCES

ADVOCACY IS SPEAKING UP for something you believe in, in the hopes of improving the situation. As RDNs we see situations every day in our work, whether in a clinic, hospital, private practice, university, research, or any setting we are in, that could be improved upon. Yet, we do not speak up. Why are we so silent? Here are some small steps you can take to break the silence:

- Know who your representatives are at the federal, state, and local level.
- Know what committees they are on.
- Know how they vote on issues. They were elected to represent your interests. Did they?
- Know if they have signed on to bills targeted by the Academy. There is information on how to easily do this on our VN DPG website.
- Become knowledgeable about the bills the Academy has targeted for action alerts.
- When asked to do so, *do the action alerts.* Take a few minutes to personalize it rather than just use the form letter. Even better, call them. The Academy now has that option on the Action Alert site which makes it extremely easy to do.
- Attend a town hall meeting and ask a question.
- Call and make an appointment to meet with them on an issue of concern.
- Invite them to your place of work so they can learn more about what you do.
- Did you know that you can apply for funds from ANDPAC to attend a political function?

Take the time to read the Advocacy section on the Academy website. It is full of information that will help you on your advocacy journey. We as RDNs have the knowledge, we have the skills, we know what needs to change. Don't be silent!!

I am happy to help anyone on this journey.
QUESTIONS, COMMENTS, CONCERNS please contact me at catherineconway@msn.com.



OPTIMIZING PROTEIN INTAKE FOR PLANT-BASED ATHLETES AND ACTIVE CLIENTS

BY KELLY JONES, MS, RD, CSSD

AS RESEARCH HAS EMERGED to support a plant-based diet as one of the most health-promoting eating patterns that also support a healthier planet, more athletes have become interested in adopting eating patterns that eliminate or limit animal products (1). Of some concern to athletes, strength and conditioning coaches, and other members of the sports nutrition care team though, is whether plant-based diets are able to offer high quality protein for optimal muscle repair and growth. Furthermore, nutrients such as iron, omega-3 EPA, vitamin D and calcium are of concern for any athletes, whether following a plant-based eating pattern or not. It is critical that registered dietitians understand the high energy and nutrient demands of athletes and the physically active population and are able to effectively translate the importance of careful planning when transitioning to plant-based eating patterns while training.

ENERGY NEEDS

Low energy availability, menstrual dysfunction in females, and poor bone health are already important to be cautious of in athletes participating in endurance, weight class, and aesthetic sports as well as for recreationally active females prone to dieting (2). For example, one study on competitive male runners, cyclists and triathletes found 80% were at some level of risk for low energy availability (3). Therefore, in a population already prone to inadequate intake, it is especially important that athletes transitioning to a vegetarian or vegan diet do so slowly, in the off-season, or in close collaboration with a sports dietitian.

Due to the availability of high protein meat substitutes and protein powders, total protein intake may not be of high concern, but even with adequate total protein intake, energy intake is still important for the body to use protein for its critical functions in addition to muscle repair and growth. As many dietitians are aware, carbohydrate is the most efficient source of energy for exercising muscles and has a protein-sparing effect when eaten in adequate amounts. By not eating enough energy in the form of carbohydrate and with lower fat reserves than the general population, protein may be utilized for energy rather than for muscle repair and growth.

PROTEIN QUALITY

As covered by David Katz in his recently published "perspective" paper on modernizing the definition of protein quality, the current definition of protein quality is based solely on the ability of a single protein source to meet needs for metabolism and body tissue maintenance (4). By looking at only the PDCAAS of single protein sources, rather than the whole diet, animal proteins are strongly favored. There is no consideration of how the other compounds in that protein may impact health in the short or long term, or how high consumption of those proteins may impact environmental health. Katz and colleagues have suggested that the definition better reflect the impact of the protein sources on public health and the environment, and to better align with national dietary guidelines as the most recent Dietary Guidelines for Americans (DGA) suggests inclusion of more plant proteins.

Well presented in a figure published in the journal Nutrition Reviews, an eating pattern that includes plant proteins contains similar amounts of essential amino acids when compared to eating patterns that include animal proteins, providing for similar quality (by current standards) at the end of the day (5). For the average person following a plant-based diet, obtaining enough of all essential amino acids (EAA) each day can be done without much extra effort. However, more research is needed to see if this is the case with athletes and the highly active population as well. In the case of those individuals, it may be wise to recommend the pairing of complementary proteins, especially in high volume training periods or in the post-workout recovery window (up to 2 hours). This may be helpful to increase single meal protein quality to match that of single food animal sources.

Still, it is now well recognized that the essential amino acid leucine is the main trigger for muscle protein synthesis post-workout (6). While more research is needed, it is commonly suggested to take in 2-3 grams of leucine in a post-workout window. This amount can be obtained easily from popular whey protein supplements and dairy products, but isolated soy protein and even vegan leucine isolate supplements can also provide this amount. It is

now thought that leucine may be the reason whey protein supplements have consistently been shown to be superior to others after exercise. Recent studies have contested that pea protein, which offers leucine but is not rich in all EAAs, appears to have similar benefits to whey protein for muscle repair and growth (7).

PROTEIN QUANTITY AND TIMING

Overall, it is helpful when clients are transitioning to a plant-based diet that they incorporate adequate total protein each day as well as each time they eat. Protein recommendations for athletes are generally between 1.2-2.0 grams/kg/day, with some recent studies showing benefits above 2g/kg/day during heavy training periods for ultra-endurance athletes and those participating in powerlifting and Olympic lifting sports who are looking to gain more mass (8,9,10).

With the exception of a meal or snack right before exercise, moderate protein intake is recommended at four to six meals and snacks throughout the day (11). For recreationally active individuals who have dedicated training plans as well as those participating in endurance and intermittent sports, doses of at least 0.3 g/kg of protein to maximize muscle recovery at each meal and snack are adequate (12). For those with higher protein needs, such as Olympic lifters or powerlifters, 0.4g/kg at each meal is likely more appropriate (13).

To maximize energy and protein intake throughout the day, the RDN can aid clients in determining appropriate high protein meals and snacks, to allow the body to continue to recover between training sessions. Suggest varied soy protein foods, including roasted edamame for on the go snacks, veggie burgers rich in pea protein or vital wheat gluten, and third-party verified plant-protein powders that include pea protein as well as another plant source to optimize EAA availability. Discussions about plant-milk alternatives are also important as many non-dairy milk options are very low in protein. In addition to soy, there are now options fortified with pea protein to enhance variety.

OTHER NUTRIENTS OF CONCERN FOR ATHLETES

While you'll often hear that vegans and vegetarians are at risk of low EPA and DHA intake, it is worth noting that most omnivorous Americans don't meet the minimum seafood recommended by national organizations to have adequate blood levels either. Overall, the higher intakes of mono-unsaturated and poly-unsaturated fats in plant-based diets are already advantageous to the physically active population, in comparison to the standard American diet. Still, studies have shown omega-3 EPA/DHA supplements to help reduce muscle soreness, improve muscle function and help the body better adapt to exercise (14). There's even some evidence that it can help those with exercise-induced asthma. Therefore, it is wise to recommend algae-based EPA/DHA supplements to athletes (15).

When it comes to iron, a nutrient of special concern for female athletes, it is helpful to educate clients on the importance of pairing non-heme iron sources with vitamin C. Presence of vitamin C at meals has been shown to increase absorption of iron four-fold (16). A recent study also found that iron absorption was higher in the meal immediately following a workout versus meals that were taken in much later. Encouraging high iron intake in post-exercise meals may be a beneficial strategy for your athletes (17).

When transitioning to a plant-based or entirely vegan diet from an omnivorous one, signs of low vitamin B12 can take years to notice. B12 is widely known for its role in energy metabolism and cognition, and deficiency can result in reduced endurance work performance and muscle function (14). Due to the nature of our modern food system, vitamin B12 supplementation is advised for vegans in addition to intake of fortified foods such as non-dairy milks and nutritional yeast. Have these discussions with athletes initially, so they can start implementing strategies to maintain B12 stores early.

KEY TAKEAWAYS

- Of highest importance is ensuring athletes transitioning to plant-based diets, or plant-based clients increasing activity level, maintain high enough energy intake.
- Prioritizing regular intake of adequate protein and essential amino acids (whether of a single food source, or multiple sources) is important for optimizing muscle recovery.
- Athletes should be aware of consequences of low energy and protein intake for their activity levels, as well as strategies to maximize iron absorption and take in adequate EPA, DHA and vitamin B12.

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Written by Kelly Jones, MS, RD, CSSD, *a media dietitian and nutrition communications consultant who has experience with high level sports organizations including the Philadelphia Phillies, USA Swimming and New York Road Runners among others. You can find more evidence based tips for plant-based performance nutrition on her blog and instagram.*

HOUSE OF DELEGATES (HOD) UPDATE

BY LINDA ARPINO, RDN, CDN, FAND

THE HOD WILL HOLD the fall Virtual Meeting.
Topic: Systems Approach to Nutrition and Health Equity

Thursday, October 15 from 2:00 pm - 5:00 pm CT
Friday, October 16 from 11:00 am - 4:00 pm CT

I urge all members to learn more about recent critical issues such as Cultivating Sustainable, Resilient, and Healthy Food and Water Systems: A Nutrition-Focused Framework for Action. Your voice is important to assure there is well-rounded representation in these important topics.

Please visit: https://www.eatrightpro.org/leadership/governance/house%20of%20delegates/critical%20issues

I am advocating for VN members to consider running since this is my last year as your delegate. This is an excellent opportunity to become a leader in shaping the direction of our organization. I would love to share my experience if you are interested in running for this terrific leadership position. If you are interested in attending our virtual meeting to learn more about our dynamic leadership and its critical issues, please feel free to contact me. I would love to hear from you if you are interested in running for this position as our VN representative.

Nominations are requested for many board of director positions, the Nominating Committee, Accreditation Council for Education in Nutrition and Dietetics and more. To learn more visit https://www.eatrightpro.org/leadership/nominations-and-elections/national-leadership-positions/election-positions-available

Delegates were given training on Knowledge-Based Strategic Decision Making adopted in the early 2000s. Consultative leaders are asking key people with a knowledge base to help create solutions to Critical, Mega and Strategic issues. If you see a need to address an issue it is important to contact me so I can pitch it to the HOD.

The Nutrition and Health Equity Summit: The State of Black Health on August 25th was recorded if you were not able to attend. Click here for the link to the recording.

Diversity will be a topic at our fall meeting. Stay Tuned!

FROM THE WRITINGS OF LENNA FRANCES COOPER: *THE ANTITOXIC DIET*

EXCERPTS PROVIDED BY: JOHN WESTERDAHL, PHD, MPH, RDN, CNS, FAND

BY LENNA FRANCES COOPER, B.S., M.A., M.H.E.

Note from the Editors:

In order to provide a contemporary and racially sensitive perspective of history, we would be remiss if we did not point out the dark, racist, and oppressive practices that Battle Creek Sanitarium carried out and promoted. Lenna worked for many years as the Chief Dietitian, Director and Dean of the Battle Creek Sanitarium School of Home Economics. We felt it imperative to inform readers that Lenna, who while being a pioneer in the field of dietetics, also held significantly close ties with the Kelloggs and Battle Creek Sanitarium.

Dr. John Harvey Kellogg who ran the Battle Creek Sanitarium was a co-founder of the Race Betterment Foundation which promoted eugenics and a belief in white supremacy. As a DPG, we want to be clear that we do not condone any of the racist or discriminatory beliefs and actions that were partaken by the late Dr. Kellogg and his colleagues.

If you are interested in learning more about the history of Battle Creek Sanitarium and Dr. Kellogg, here are a few references: NPR Article, and Battle Creek Enquirer. Read more about Lenna Frances Cooper's life on our VN DPG website. We plan to explore the topic of systemic racism in our food system and in the field of dietetics and offer both reflections and lessons learned in our winter edition of the newsletter.

Lenna Frances Cooper was a co-founder of the Academy of Nutrition and Dietetics. She is recognized historically as one of the pioneers in the science and field of vegetarian nutrition and dietetics. This column features the early writings of Lenna Frances Cooper for historical and educational purposes and reflects some of the early thinking and information regarding vegetarian nutrition.

"A DIET IS TOXIC that produces toxins, or poisons, in the body as the result of bacteria acting upon the nitrogenous part of the diet. These poisons are known as 'ptomaines.' When picked up by the blood stream and carried to all parts of the body they give rise to a condition known as 'autointoxication'–or auto-poisoning–with accompanying headaches, biliousness, languor, mental depression, and susceptibility to colds and other diseases.

In choosing an antitoxic diet–or a diet that minimizes the production of these toxins in the system, our chief attention must be devoted to the reduction of the protein, or nitrogenous element, in our food to the amount demanded by Nature. Now, a certain amount of proteins are necessary to the vital processes. It is from the proteins that the body substance is largely built up; it is upon the proteins that the system depends for the repair of the body cells as they are worn out by the day's activities. We may use a hackneyed illustration and compare the protein of the body to the iron in the locomotive. The iron constitutes the locomotive itself, within which fuel is burned for the production of heat and power. In the same way the body structure is built up of the proteins, and within this structure is consumed the fuel–the fats, starches and sugars that go to generate heat and energy.

But the amount of protein which the system demands is usually overestimated. Up to about ten years ago it was thought unsafe to go on a [diet] that was low in protein, but experiments by Professor Chittenden, of Yale, proved that this was wrong. When Professor Chittenden suggested to his colleagues the idea of a series of experiments to determine precisely the amount of protein which the system demanded, he was met with the objection that it would be unjust to ask students to submit themselves to an experiment in which so many dangers were involved. So, Professor Chittenden and three members of the faculty determined to make the experiment upon themselves, later on securing volunteers from Yale athletes–altogether thirteen people undertook the experiments.

The subjects of these tests gradually reduced the protein in their food until it reached what they regarded as the very lowest point compatible with safety, Professor Chittenden cutting down his own protein ration to considerably less than half. The experiment lasted a year, and with such success that Professor Chittenden and some of the other members of the faculty have since continued their low protein regimen, because they find that it increases efficiency and improves the general health.

How the Poisons Are Made

Now, in a low-protein diet in which the starches and sugars predominate, the bacteria which are found in the colon form acids, which prevents the production of ptomaines since they can be found only in an alkaline medium. To show how this is true, there is at the Battle Creek Sanitarium a piece of beefsteak that for seven years has been kept immersed in a jar containing buttermilk made from the culture of the bacillus Bulgaricus. This steak is in a state of perfect preservation, because precautions have been taken to renew the acid buttermilk, since the sugar which it contains is constantly being consumed by the bacteria. If this sugar were allowed to become exhausted, so that the immersing solution would lose its acid reaction, the bacteria

within the steak would be able to attack the meat, and would set up a process of decay in which ptomaines would be produced.

Now precisely the same processes takes place in the colon. When proteins are eaten in excess the putrefactive bacteria attack the food and produce the same effects that except for the buttermilk would take place in the jar containing the steak. For under ordinary conditions the colon is strongly alkaline, and affords a splendid medium for the activity of the putrefactive bacteria. It was on this account that Professor Metchnikoff, of the Pasteur Institute, and his colleagues sought a few years ago to fight autointoxication by introducing into the colon an acid-producing germ that would render the colon unfavorable for the growth of putrefactive bacteria.

On this account the use of the Bulgarian bacillus in the form of buttermilk was introduced. For all sour milk preparations contain bacteria which feed upon the sugar of milk–lactose–producing from it the lactic acid which gives the milk its characteristic sour taste, and which makes it impossible for the ptomaines, which, we have observed, demand an alkaline medium, cannot be formed. The lactic acid is itself antiseptic, but the Bulgarian bacillus, the strongest of all lactic bacilli, is particularly beneficial because it is strong enough to withstand the action of the digestive juices...

The Proper Proportion of Protein

The proportion which protein should sustain to the rest of the food is as one is to ten. For instance, if one requires 2,400 food units a day, one-tenth, or 240 units, should be in the form of proteins. So far as the fats and starches are concerned, these are used by the system almost interchangeably, except in cases where the physician interdicts the use of starches or fats.

This applies, new as the idea may seem to many of our readers, to the laboring man as well as to the sedentary worker–we might say it applies especially to the workingman, for it is fats and starches, and not the proteins, that are used by the system in producing heat and energy. And, inasmuch as it is energy which the working man requires, it is energy producing food that he should eat most of–fats and starches. And from the economic standpoint it is also well that this is true, for usually the fats and starches are less expensive than the proteins–especially in the case of meat and eggs. Also, there is this further economic argument, that the fats and starches are completely assimilated by the system, whereas a considerable amount of the proteins are wasted because they are not fully absorbed by the body.

The Nitrogenous Foods

Now, as to the question of what are the foods rich in protein: there are five groups– (1) lean meat, because it is made up of body tissue of the animal from which it is taken. Indeed, lean meat usually runs from nineteen to twenty-one per cent of protein, the rest being mostly water; (2) eggs, which contain about ten per cent of protein–seventy-five per cent being water; (3) milk and cheese–four per cent of the fourteen per cent of dry matter in milk is protein in nature; (4) nuts, which contain usually from twenty to twenty-five per cent of protein. Nuts are a highly concentrated food, we might add, and it is safe to say if they do not agree with one the trouble is insufficient mastication. In order to insure more thorough chewing, it is a good plan to eat them with a dry cracker; (5) the legumes, consisting of lentils and dried beans and peas. These also contain about twenty-five per cent of protein.

All of these foods can be omitted entirely from the [diet] without danger of depriving the system of sufficient protein, for the reason that proteins are found in sufficient quantities to meet the demands of the body in most of the other foods found in Nature. To show how true this is, it is a fact that a diet of bread, butter and potatoes contains sufficient protein for doing the hardest kind of work.

The foods which one should use in order to fight the formation of poisons in the colon are the cereals, fruits, and vegetables. These are anti-putrefactive because they contain little protein, thus constituting bad culture medium or food for the ptomaine-forming bacteria. They also increase the flow of the gastric juice because of their effect upon the appetite. Especially is this true of the fruits and the dextrinized cereals. They require only a limited activity of the intestinal canal, as they are largely digested by the action of the saliva. The fruits require practically no digestion, for they are predigested. The fruit and vegetables are especially valuable for their bulk and cellulose, though they may be contraindicated in some cases.

It is especially important that the diet be sufficiently laxative to prevent the food remaining in the alimentary canal longer than normal, otherwise poisons will be formed from any kind of a diet. Sweets, acids, fats and bulk are the essentials of a laxative diet, as also whole meal breads, bran biscuits, etc. Hence fruits of all kinds, especially apples, and the sweet fruits–prunes, figs, dates, etc.–and the more easily digested fats–cream, butter, and ripe olives, as well as coarse vegetables, such as spinach, beets, lettuce, etc., should play an important part in an antitoxic [diet]."

Lenna F. Cooper

Source: *Cooper, Lenna Frances. 1915. The antitoxic diet. Good Health (Battle Creek, Michigan) 50(1):35-38. Jan.*

HAVE YOU READ?

COMPILED BY VIRGINIA MESSINA, MPH, RD

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