



Top Five Tips to Spot Biased Nutrition Research

Kevin Schwanz, RD



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reading through research publications is no longer good enough; there needs to be educated discernment and a deeper inquiry. Properly interpreting nutrition research is an underappreciated skill, but it's a skill in which dietitians should be the undisputed experts. To that end, presented here are five tips to help RDNs spot bias when reviewing nutrition research.

5. Look for Missing "Intention-to-Treat" Analysis

Subjects not complying with their assigned intervention is a common weakness within nutrition research. For example, study participants may be randomized into a group instructed to consume a Mediterranean diet, but all subjects may not make compliant changes in their diet. It's possible that a portion of the subjects may make minor dietary changes, but still may, for example, be eating more along the lines of the Standard American Diet (SAD). Participant adherence is an issue and often presents challenges as researchers attempt to make sense of study results. If subjects are following a more SAD dietary pattern, then their results are clearly not reflective of what we could expect from eating a Mediterranean diet. However, if their results are NOT included, this opens the door for bias and manipulation. Compliance can be defined in numerous different ways: actual food intake, attendance at educational sessions, using biomarkers, or others. Additionally, the degree of compliance can be manipulated: 75% compliance, 80%, 90%, or essentially any other level. In other words, researchers

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The majority of nutrition research is conducted with integrity and presented in an objective, scientific manner. It would be naïve, however, to assume that all research meets the same high standards. At the other end of the spectrum is a small number of studies with data that are completely fabricated. More common are the studies that lie somewhere in the middle. Authors may stretch the truth to make their research seem more impactful or important, negative findings may be downplayed or not reported, study protocols or outcomes may change in the middle of the trial, and conflicts of interest may be hidden. One of the most prominent examples of this is the PREDIMED study¹ which was reported to be a randomized trial by its authors, but it was later discovered that a large number of subjects were not randomized. As research provides the foundation of evidence-based dietetics practice, these biases and half-truths have the potential to directly impact professional recommendations.

Often when studies are manipulated or biased there will be clues left behind. Knowing where to look and how to spot these red flags is empowering and essential to truly analyzing studies. Simply

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Editor's Notes



For this Winter edition, we're focusing on the unsexy business aspects of nutrition and running a practice. While some of the content may *feel* more directed to those in private practice, topics such as interpreting research, charging what you're worth, landing wellness opportunities, and navigating social media have applications for everyone.

For better or worse, research is a cornerstone in our field. It is the intellectual, logical, and scientific basis for why we do what we do. Yet, nutrition research is incredibly messy. As one of the three tenets of evidence-based medicine, and the one practitioners seem to lean on the most (erroneously when at the exclusion of the other two), its messiness has implications. We're familiar with many of the problems already, and the list is long: having one group of people adhere to a particular diet for a certain length of time; over and underreporting; the sheer diversity of food and people; cost; conflict of interest; faulty design; studying one nutrient vs food synergy; law of averages vs $n=1$; catching all of the confounding factors; and bias, unconscious and conscious. According to Stanford Professor Dr John Ioannidis, "Science itself is an unconscious bias. We want to discover things and make a difference. Objectivity can be lost with that much pressure, even from the best researchers."

I encourage you to first take a look at Ioannidis' cult classic [2005 article here](#) about published research findings; then at the [2009 Institute of Medicine report](#) that identified widespread financial conflicts of interest across medical research, education, and practice. Lastly, for some truth and hope, [an article recently published in December 2019](#), from a global team of influential researchers, clinicians, regulators, and citizen advocates, suggests how we can start to build an evidence base for healthcare that is free of commercial influences.

Growth and knowledge are essential in this continually changing landscape that is nutrition. I hope these articles resonate and encourage you to dig deeper, think more critically, and evolve your practice. Much appreciation for continuing to read our newsletters, suggest ideas, and engage with us on our many platforms. As always, please feel free to send comments to me at jenas_mailbox@yahoo.com

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Chair's Corner

Dana Elia, DCN-c, MS, RDN, LDN, FAND



Happy 2020! I hope this issue finds you well and off to a great start—new year, new decade.

Our diversity team had a successful launch of DIFM's EmpowerRD podcast last quarter. Be on the lookout for more episodes. The coaching and mentoring team is diligently pulling together a database to connect mentors and mentees. We can really use more mentors. Please reach out to Olivia Neely at olivia@letsgetrealrd.com for more info.

The topics covered in this issue truly resonate with me, especially being in full-time private practice. As the first week of 2020 unfolded, I learned that the physical therapy group I sublet my office space from has grown so much that they needed to reclaim the office I've been renting for the past six years. Not exactly the way I wanted to start off the new year. But, after the dust settled and my cortisol levels returned to

normal, I took this as an opportunity to reflect on what I truly wanted for my business moving forward. I knew 2020 was already going to be a year of hitting some personal goals, like publishing a book and earning my DCN in functional nutrition. I had been toying around with the idea of shifting to a virtual practice in an effort to reach more clients; and also after years of dealing with the third party-payer model, I was struggling to decide whether or not to continue accepting insurance. I reevaluated just how much time I spend doing paperwork, answering emails, and tracking down insurance payments and how much time was direct client care...then where did family time and the all too often neglected self-care fit in? At the end of it all, what really was my hourly wage factoring out to be? These are all things that we often overlook in our efforts to run a successful practice and ultimately serve our clients well. Business savviness may not come easily to all, and it's certainly not the most glamorous part of my day-to-day routine. Rather, it often feels more a necessary evil.

Therefore, what is losing my physical office space teaching me? For one, to trust my gut instincts and recognize that sometimes the universe gives you just the push you need to move out of your comfort zone. That's also where the content of this issue is so timely for me—I've always found it a bit challenging to market myself and even harder to charge what I'm worth. I'm sure many DIFM members could benefit from some tools and strategies to help make those conversations easier and more productive. I know the insightful information in the following pages will help to empower, enlighten, and energize me as my private practice goes through some transformation and growing pains; and I hope that you, too, will be inspired by the articles regardless of the practice area in which you currently work.

Please keep in touch and let me know what has inspired you in the beginning of this new year and new decade.

In health & wellness,
Dana



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to be leaders in
integrative and
functional nutrition.*

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can define compliance a certain way and assess what the results are from there. If the results are different than what they hoped for, they can change how they define compliance and assess the new group of subjects through this new definition and continue the process until more desirable results are found. In a study included in the 2016 ASPEN Critical Care guidelines, a total of 165 subjects were randomized to one of two different tube feeding formulas and had outcome data available.² However, only 103 of the subjects were included in the analysis. To be included, subjects had to receive tube feeding for a period of four days from study day one. Additionally, day one was defined as the first day the subject received a minimum of 75% of basal energy expenditure $\times 1.3$. It's unknown whether these criteria were chosen before the study began or if they were chosen after the results were in and multiple analyses had been performed. Entirely different results may have been found if all 165 subjects were included in the analysis or if those receiving three days of feeding (vs four) were included as well.

A simple way to minimize this type of bias is by completing an intention-to-treat analysis. In a randomized trial, an intention-to-treat analysis means that all subjects randomized to a group are included in the results, regardless of compliance, withdrawals, or deviations from the study protocol. This method of analysis is the least prone to bias and should be included with all randomized trials. The drawback to the intention-to-treat analysis is that it can dilute the results and make interventions seem less impactful than they might actually be. Analyses that only include subjects with high compliance may provide a better idea of what can be expected from an intervention, but they come with a higher risk of bias. A better option that is relatively common is to present both an intention-to-treat analysis and a separate analysis that accounts for compliance or other factors.

4. Watch for Conflicting Primary Outcomes

One of the decisions researchers make when planning a study is how many subjects to include. Although many factors such as finances and

resources play a role, the largest factor dictating the number of subjects needed will hopefully be the primary outcome. For instance, if a trial is planned to compare weight loss on a vegan diet and a low-carbohydrate diet, the researchers will estimate how much weight loss they expect on each diet. Based on this, they will calculate how many subjects would be needed to show a statistically significant difference. This is referred to as a power analysis. This information is now commonly included in journal articles with details on how many subjects they estimated were needed to provide 80% statistical power (for instance) to detect a 10 lb difference in weight loss between groups at a P value of 0.05. This simple information can be a great tool for detecting bias.

Nearly every study will include a primary outcome or two, but most studies will also measure a number of other variables to see if their intervention had an impact on a wide variety of outcomes. Doing this does have some drawbacks. If 100 different outcomes are measured, it's very likely that a few of those outcomes will show a statistically significant difference between the groups just due to random variation alone; this is known as a false positive. The more outcomes assessed, the more false positives will be found. This is why it is important to determine the study's primary outcome before beginning.

Early in 2018, a study made headlines when it reported that supplementing with relatively large doses of choline late in pregnancy could improve cognition in the infant.³ The trial publication stated that the primary outcome was a particular measure of infant cognition, and the secondary outcome was a different measure of infant cognition. The authors also revealed that the sample size was based on a power analysis to show differences in biomarkers of choline metabolism. This revealed that the primary outcome of the study was not infant cognition, as reported, but simply changes in choline metabolism. Thus, when the primary outcome reported by the authors is different from the outcome that the power analysis was based on, this indicates a simple but powerful red flag that the study may be biased and the outcomes are at higher risk of being a false positive.

3. Examine the Funding Source

One of the more obvious signs of potential bias is the funding source. If the study is funded by any company or group that will benefit from particular results or potentially be harmed from the opposite results, clearly there is motivation beyond objective scientific inquiry.⁴ A 2007 review of 206 studies that looked at the health benefits of milk, soda, and fruit juices found that those sponsored by industry were 4-8 times more likely to show positive health effects from consuming those products.⁵ In her book, *Unsavory Truth: How Food Companies Skew the Science of What We Eat*, Marion Nestle, PhD, informally collected industry-funded studies for the year, 2015. Of the 168 studies, 156 had collected favorable results for their companies.

Not all studies funded by industry are flawed or biased, but they are certainly at a much higher risk of bias and should be more closely scrutinized. It is very easy to design subtle aspects of the study to give a slight advantage to one intervention.⁶

Given the fact that a study's funding source is one of the most widely known examples of bias, many attempts have been made to minimize the visibility of overt conflicts of interest. Many front groups and scientific-sounding organizations and institutes have been created by industry to fund research while reducing the appearance of conflicts of interest. Additionally, governmental bodies and universities have been known to receive large sums of money from certain food companies and subsequently conduct studies directly related to the interests of their donors.

Ideological conflicts of interest are similar and should be treated the same as financial conflicts. One example of this can be found in a study completed by Dr Neal Barnard and colleagues involved with the Physician's Committee for Responsible Medicine.⁷ In this study, a low-fat vegan diet was compared to a control diet in subjects with diabetic neuropathy. Despite declaring no conflicts of interest, Dr Barnard, his published books, and his committee are outspoken proponents of a vegan diet.

2. Look for Differences Between Groups

The goal of a randomized trial is to minimize or eliminate any confounding factors or differences between groups other than the assigned interventions. This is what elevates randomized trials far above nonrandomized trials and the ensuing conclusions that can be drawn. Unfortunately, not all randomized trials will achieve this goal. There may be numerous differences between groups, in addition to the actual interventions. Often times, these additional differences are brushed off or not considered meaningful factors that would influence the results, but that is a mistake. In the 2017 Presidential Advisory⁸ from the American Heart Association (AHA) focusing on saturated fat, one of the trials reviewed was the Oslo Diet-Heart Study.⁹ To quote from this advisory, "The Oslo Diet-Heart Study assigned at random 412 men who had had a myocardial infarction to either a control group who continued their usual high-saturated fat diet or an experimental group who changed to a low saturated, high polyunsaturated fat diet."⁷ They attributed the improved outcomes in cardiovascular health to the changes in saturated fat and polyunsaturated fat intake alone. However, numerous additional recommendations were made to the intervention group which included suggestions to increase consumption of fish, salads, fruit, nuts, peas, carrots, and beans while reducing intake of sugar. Additionally, margarine intake, then made from hydrogenated oils, was quite high in Norway during the study period. These margarines were "entirely restricted" in the intervention group, while the control group continued consumption. Clearly, these additional differences can and most likely, did have a substantial impact on the outcomes of the study. Therefore, the trial cannot definitively demonstrate that the outcome was simply the result of the substitution of saturated for polyunsaturated fat as the AHA suggested.

The most common source of differences between groups, beyond the intended interventions, are trials that use a control group that makes no changes. For example, if the intervention is to increase fruit and

vegetable consumption, decrease saturated fat intake, or increase home-cooked meals, this is relatively easy to achieve by using a control group that makes no changes. However, this will inevitably lead to numerous differences in treatment between groups, as the intervention group will potentially have regular contact with health professionals such as dietitians, increased peer support and resources via group classes, and an increased focus on their health in general. This is especially true in studies that use subjects with newly diagnosed or uncontrolled chronic conditions and have the control group continue the diet and lifestyle in which they developed these conditions. A superior study design will randomize all subjects to an active intervention. A good example of this is the DIETFITS study,¹⁰ which randomized subjects to a low-fat or low-carbohydrate diet. This study wisely attempted to keep all variables equal between both groups except for the carbohydrate and fat intake. Both groups received ongoing education and were encouraged to maximize vegetable intake; minimize added sugars, refined flours, and trans fats with a focus on whole foods that were nutrient dense and minimally processed.

When reviewing any study, it's important to scrutinize the interventions for any variations, as the authors sometimes do not overtly report differences, however, upon closer inspection they can be found. For example, authors may report conducting a trial that decreased sodium intake by encouraging subjects to buy foods fresh, cook from scratch, and limit restaurant meals. However, this goes far beyond decreasing sodium intake. An intervention that only decreases sodium would have subjects change from using TV dinners and canned foods to using low-sodium TV dinners and low-sodium canned foods. Changing to cooking from scratch will decrease sodium, but it will also result in several other potentially beneficial changes that are easy to overlook but need to be considered.

1. Review the Clinical Trial Register

Lastly and significantly, the most impactful tool for spotting study bias and manipulation is the clinical

trial register. This is so important that if you do not review the clinical trial register, you might as well not even review the study at all. For those unfamiliar, clinical trial registers are platforms or databases where researchers planning to conduct a study can declare their study objectives, interventions, inclusion and exclusion criteria for subjects, outcomes, and any other relevant information. This improves transparency and creates accountability for the researchers, as these databases are available to the public and all changes are tracked. One of the first and largest trial registers is www.clinicaltrials.gov, which is managed by the United States National Library of Medicine.

It is unfortunately quite common for studies to undergo a notable metamorphosis in the middle of the trial, or, equally as detrimental, after the trial is over and the results come in. One such trial was published in 2018 by the Physician's Committee for Responsible Medicine titled, "A plant-based dietary intervention improves beta-cell function and insulin resistance in overweight adults: a 16-week randomized clinical trial."¹¹ A cursory look indicates that it was a trial focusing on beta-cell function, and the authors report that the primary outcome of the study was indeed beta-cell function. However, a quick review of the clinical trial register revealed that this was a trial intended to assess the mechanism by which a plant-based diet induces weight loss. Several other outcome measures were also mentioned in the register, but beta-cell function was not one of them initially. This outcome appeared only after the trial was completed and the results were tabulated.

A second trial compared a peptide-based enteral nutrition formula to a standard formula in an ICU setting.¹² The authors' conclusions were that the peptide-based formula reduced the number of days with adverse events and undesired gastrointestinal events compared to the standard formula. Upon reviewing the trial register, we can see a transformation unfolding as the trial progresses. Initially, the trial only included subjects that had an APACHE II score ≤ 15 and received mechanical ventilation. During the trial, the level for inclusion for the APACHE II score increased to 19, and

later increased again to 24. Also, after the trial was completed, the requirement that the subjects receive mechanical ventilation was removed. A total of six subjects were included in the final analyses that did not receive mechanical ventilation, and all six were in the group that received the peptide-based formula. Additionally, it is important to pay close attention to the primary outcomes. In the trial register, the primary outcome was reported as tolerance to the feeding as measured by incidence of diarrhea, nausea, vomiting, and other symptoms. Secondary outcomes included caloric delivery and incidence of complications. In the final publication, the authors actually do report on all of these outcomes, none of which show any difference between the groups. The outcomes focused on the most by authors seemed to be created after the results were in, thus, may be considered little more than accounting tricks. Even though the actual number of adverse events, episodes of intolerance, and the number of subjects experiencing these outcomes were no different, the authors were able to create a difference by reporting the number of days on which an adverse event or intolerance occurred.

Conclusions

The majority of nutrition research is completed with integrity, but some trials are most certainly not. The problem is that unless we look beyond the surface, it can be difficult to distinguish between the two, as the authors of biased or manipulated studies do their best to present their studies as legitimate. Understanding and implementing these five tips will greatly improve the RDN's ability to spot poor research and prevent it from influencing his/her nutrition practice.

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Land Lucrative Wellness Opportunities!

Judith Scharman Draughon, MS, RDN, LD



Judith “Judes” Scharman Draughon, MS, RDN, LD, author of *Lean Body, Smart Life*, is passionate about her quest to empower people to make small changes that make a big difference. She inspires many with her

high-energy nutrition presentations, workshops, and seminars. She is the owner of Nutrition Educational Solutions, LLC, also known as “Foods With Judes.” Her 12 Fix Program for dietitians equips them with customizable wellness presentations; scripts; a flexible wellness plan; and a manual to help clients, companies, organizations, and groups take small steps toward improving their health. In addition to Judes’ corporate wellness work, she taught at the International Culinary Arts and Sciences Institute and held various other positions as a dietitian through the years. She is the mother of four adult children and resides in North Carolina with her husband.

As a registered dietitian nutritionist (RDN), there are countless career opportunities available to you, one of which is what I simply like to call “wellness.” Not *corporate wellness*, but *wellness*. Why am I making this distinction? Because I believe that the area of corporate wellness is expanding to be much more inclusive than simply what we think of when we hear the words “corporate wellness”—most of us think of nutrition assessments at large companies, conducting employees’ biometrics, and perhaps conducting a food demo for 50+ people in the room.

But I invite you to expand your view of corporate wellness to include *any* wellness opportunities that excite you! Feel empowered and excited to grow your business or private practice, establish a side business, offer new services, or implement new program ideas. What new idea keeps calling your name? What do you have within you that you can bring to the world? Let’s take a look at how to bring your services to contacts, companies, organizations, or groups that make you want to do a backflip! Let’s turn your contacts into contracts!

Wellness Industry Growth

Wellness programs and services are blossoming as companies, organizations, and groups recognize the importance of having health-aware, productive employees or

members. There is a great need for dietitians and your nutrition expertise in this space.

The wellness market is expected to reach \$90.7 billion by 2026, according to the Grand View Research firm.¹ The research cites that the rising prevalence of obesity in the United States is resulting in increased insurance costs which ultimately fall upon employers. Wellness programs address specific health factors such as obesity, stress, smoking, nutrition, and exercise. According to a Harvard study, costs associated with absenteeism fall by \$2.73 for every dollar that is spent on wellness programming.²

According to the Grand View report, the fitness and nutrition consultants segment is anticipated to grow rapidly during the years 2019-2026 due to increased demand for exercise and nutrition education. Another trend to note is that stress management will be the fastest-growing segment from the years 2019-2026, as Americans note their desire for stress-relief practices both on the job and at home. Clearly, there is a place—and a need—for wellness programming as companies, organizations, and groups strive to keep employees and members *well*.

Dietitians and Wellness: Clients, Companies, Organizations, and Groups Need Your Nutrition Expertise

Perhaps you’re a new RDN who wants to break into wellness, or you’re a seasoned RDN who has an interest in providing wellness services to companies, organizations, and groups. You, as the nutrition expert, are the perfect fit, whether you do contract work or whether you work for companies in house as their wellness director. Oftentimes, these companies don’t know what they need in terms of wellness programming until you pitch your services to them. Opportunities abound!

Approach companies, organizations, and groups that appeal to you; but know that many large companies may already have a wellness program in place. A

recent wellness report³ determined that more than 80 percent of US companies that employ 50 or more individuals offered some sort of wellness benefit to their employees. Thus, smaller businesses pose a major opportunity as many cannot afford expensive wellness programming.

To which local companies, organizations, or groups can you provide your nutrition services? You know the need for your services is high; start searching for those who are eager to sign your contract!

Finding Wellness Opportunities

Let’s dive into how to be a piece of this “wellness pie” (yum, pie...); here’s how you can break into wellness and provide your nutrition services, programming, and education to those who need it most.

What is Your Unique Service Offering?

First, take a step back (you can bring the pie with you) and think about the unique or specific service offering that you plan to provide to your key targets. What benefits are you offering? It’s critical that you really think this through. How do you want your audience to think, feel, act differently during and following your education, presentation, etc?

Perhaps your specific focus is on delivering education pertaining to food allergens and health. You offer small group presentations, a cooking demo using allergen-free foods, a workbook, a manual, etc. You want your ideal audience to benefit by learning how to prepare allergen-free foods, how to keep the home free of allergens, how to keep the workplace free from allergens, etc. You can see how this planning stage is an important one and one that deserves your time and dedication.

Who is Your Dream Audience?

While thinking about your unique service offering, you’ll also want to brainstorm your ideal client, company, organization or group—who do you want to approach? Maybe you want to bring your allergen education service—offering

to small companies or to schools. Is your client male? Female? What age? A parent? Foodservice staff? On a budget?

Thinking more broadly, do you prefer to work with smaller groups or large companies? Do you envision presenting to a group with minimal knowledge of nutrition or a nutrition-savvy group of individuals? Make a list of characteristics of your ideal attendees and your ideal setting.

Update Your LinkedIn Profile

Before you pound the pavement and start researching companies, organizations, and groups to reach out to, make sure your LinkedIn profile is current and speaks to your expertise. LinkedIn serves as one of your best marketing and networking tools! Take a close look at your “headline”—does it advertise to potential contacts that you are available to work with their employees or members? If not, it’s time to make a few edits. Headers such as “Nutrition Wellness Specialist,” “Nutrition Communication Specialist,” or “Wellness Speaker” give potential contacts a clear picture of what you can bring to the table.

Be sure to list all of your recent speaking engagements on your LinkedIn profile as well so that wellness managers who are looking for dietitians can see that you are a seasoned speaker. Peruse the remainder of your profile and update content so that it speaks to your abilities as an educator, culinary expert, presenter, etc. Lastly, source testimonials from wellness managers and from those who have attended your presentations in the past. Testimonials speak volumes!

Find Companies, Organizations, and Groups That Need You

There are many ways to find companies, organizations, and groups that are in need of your nutrition expertise. This can be done in the following ways:

- Finding them locally via Google search
- Finding them via LinkedIn
- Searching your State Department of Commerce website, which lists businesses and targets smaller businesses (1000 or fewer employees)
- Reaching out to your colleagues, your network, your peers, your

fellow alumni, your contacts in industries outside of the nutrition field

- Search job sites such as Indeed or Zippia.com, which may post listings for wellness experts near you. Reach out to these organizations, regardless of the type of role they are hiring for—the fact that they are hiring in the wellness space speaks to their need for health or nutrition knowledge among their employees or members. Even if you’re only interested in contract work rather than full-time employee work, you’re still getting a sense for who is in need of wellness support. Reach out to those companies—they may bring you on as a contractor!

Turning Contacts into Contracts

Now that you have target companies, organizations, and groups in mind, you’ll need to find your target contact at these entities. Start with the name of a person who is involved in wellness programming for your target or the decision-maker for programs. Sample titles include HR Director or HR Associate, Head of Wellness, or Wellness Program Planner.

Now the fun begins! You may be thinking, “I’ll send them an email, they’ll respond, and then we get the negotiation underway!” I wish it were that simple. Instead of a single email touchpoint from you, it may take upwards of 12 “touches” from you to get your contact to sit up and take notice. This is based on various sales studies that indicate that you need to engage with your contact as many as 12 times before converting the sale (see **Figure** below).

Be short and to the point with your pitch to your contact—inform them of the benefit you plan to provide and outline your service idea. Methods of “touch” include:

- Email
- Phone call
- Voice message
- Video
- LinkedIn message
- Snail mail
- A personal visit
- A tag on social media
- Comment on their article or blog post

Feel free to be clever to ensure your pitch stands out! As an example, you might send your contact a relevant, newsworthy article via email that helps them run their business more smoothly and effectively. Or you might offer a free wellness assessment to get your foot in the door. I have a branded spatula that I use as a leave-behind when I visit my contacts in person; it’s a constant reminder to them every time they use it that they need to bring me on as a contractor to deliver my programming!

Don’t be afraid of following up and following up again. Pick up the phone and call your contact. Give it about 12 attempts before moving on to another opportunity. Be sure you’re hitting multiple contacts at one time, too, so as to keep your pool of options wide open.

Last but Not Least: Land Lucrative Contracts

Ultimately, you want to land lucrative opportunities, yes? I encourage you to create a profit

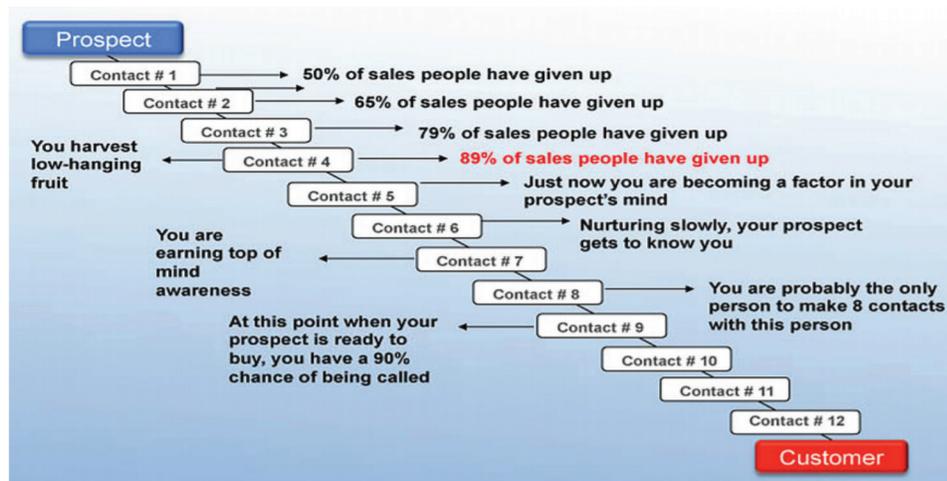


Figure: It may take as many as 12 touches to close the deal (courtesy: Microsoft)⁴

goal for yourself—what do you want to earn in Q4 or in 2020 as a result of implementing your wellness services? Revisit your earnings goals frequently. Ask yourself what you want to achieve—financial freedom? What do you want to use the money to do—travel? Save for your children's college education?

When you have data and figures in place (perhaps with the help of your financial planner, business coach, and/or accountant), name your hourly or project-based figure. You could also assess what others at your level of expertise are charging in your area and/or ask your colleagues or mentors for advice on pricing your services. But once you do have your price, name it and ask these clients, companies, organizations, and groups for it.

Be prepared to negotiate with your contacts as well. Use a range

when you give a price for your services, for example, \$500 to \$750 per presentation. Inquire about your contact's budget so that you don't lose out on an opportunity. And once you've established your worth and value to the company, ask for a higher fee.

You've Got This!

Land those lucrative wellness opportunities! "Nutritionists" are doing it as we speak, so why not you? Research your opportunities, carve out your services, make your golden list of contacts and find them; pitch contacts via 12 "touches"; set your financial goals; and turn your contacts into lucrative contracts!

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Email our Member Services Chair at:
anitadavila2@gmail.com to find out how to
obtain up to \$200 for your meetup.



Chere Bork, aka "The Dietitian Energy Igniter," is the happy owner of www.cherebork.com and a Law of Attraction coach. She gives RDNs a confidence boost to charge what they

are worth. She helps them find clarity so that they can be the best they can be. This is her purpose—but it did not just fall into her lap! Finding confidence and clarity and creating a more beautiful life takes some soul-searching. Every time Chere faced challenges and adversity on her path, it created a more beautiful meaningful life. She wants that for you—a beautiful meaningful life! And she's here to help you create it. Contact chere@cherebork.com

I'm Worth It!

Dietitians always ask me this same big question. "I want to earn more money. Where do I begin?" My shortest and best answer to that question is "begin with YOU!" Think about the fees you currently charge for your services and the amount of work you bring in as you consider the following questions with the options being "not well, so-so, or very well":

- How well does the amount of money I bring in align with what I want to make?
- How well does the amount of money I want to make align with the value I know I can deliver when I do my best work (standing strong in my passion, gifts, and talents)?
- How well does my current work align with my best work?

Bottom line—if you answered "so-so" or "not well" to any of the questions, you have some work to do on YOU! And here are five simple decisions and action steps you can make that will help you on the path to making a difference in other people's lives while investing in you.

Decide WHO you are.

You are consciously competent and excellent. You know more than millions of people about nutrition. You have been collecting and practicing this knowledge for years and years, and therefore you are brilliant.

Action: Pick one best self-attribute (eg, quick thinker, confident, enthusiastic, imaginative) and "dress" in it and live that best self-attribute every day.

Decide you have value.

Understanding your value is the first step to being able to charge

what you are worth.

Action: Ask yourself these questions:

- How long did it take for me to become a competent RDN?
- What did it cost me?
- What did I give up while I was studying (college, internship, graduate school)?
- How many years have I been an RDN?
- If I were to rate myself on a scale of "1 to 10" when I first graduated, how "good" was I?
- If I were to rate myself on a scale of "1 to 10" now, how "good" am I today?
- What new courses and new information have I learned that adds to understanding my clients and impacts their results?
- How has this added to my value proposition?
- What are some of my clients' tangible results?
- How have I changed clients' lives?

Decide you provide value.

We take for granted what we know and what we offer. You are unconsciously competent and don't even know it. We are all unconsciously competent driving a car...we just do it! We also take it for granted that it takes us minutes to calculate the percentage of fat, protein, and carbohydrate or to estimate calories on any food put in front of us. Review your value on a monthly basis. The better you do your work, the less time it takes you, the more value you have, and the more you can charge! And you probably don't need another certification—you already provide value to your clients.

Action: Make a quick hit list of some of the amazing things you know and can provide your clients with ease.

Decide you are no longer willing to put up with limiting beliefs.

"I could never charge that!" "If I make such an expensive package no one will buy it." "They won't hire me if I charge that." "I often give away my services. I work more hours than I am actually paid." "It's hard to ask for a raise, so I just don't do it...too stressful!"

Please notice the words "self-worth" has the word "worth" in it. If

you don't feel 100% worthy, how can you possibly charge what you are worth because your perception of yourself is too low?

Action: Notice your limiting beliefs about money and what you charge. Look at the consequences these beliefs are having in your life. Feel the pain of how they are keeping you from having a life you love and achieving what you want in the world. Ask yourself:

- How is this belief ridiculous?
- Is the person I learned this belief from worth modeling after?
- Do they have the kind of life I want?

Write down a replacement belief for each of your limiting beliefs. To do this, ask yourself:

- What would I need to believe in order to succeed and achieve my money goals?
- Who is already successful in this area, and what do they do differently than what I believe that's helping them to succeed?
- What is necessary to believe in order to succeed in this area?

Decide to focus on value, not price.

Organizations say, "Chere, but your talk is only one hour." My reply is that I pour the same amount of energy and work into a one-hour talk as I do for a three-hour talk. They are buying the experience. When you focus on your value and results, you will attract clients who are less price focused.

Action: Focus on your value and results instead of your fee and price.

Being a nutrition entrepreneur requires a great deal of decisions every day. Please remember life is not just about goals. Much more important than goals are decisions. Goals are SMART, tangible, and action oriented. Decisions are intangible, invisible, and based on our beliefs. Did you ever notice you must make a decision before you set a goal? If you don't decide, you don't get! The best decisions are made with self-awareness. So starting today, please take the time to examine your own thoughts and beliefs, feelings, and experiences before you tell anyone your fee. Decide today you are worthy. It's your choice. It's your business. It's your future! It's really OUR FUTURE!!!

POMEGRANATE RESOURCES

For research, nutrition facts, cooking tips and more, find everything you need for all things pomegranate!

Research at Your Fingertips

Use these sites as tools to better understand and advance the conversation on pomegranate polyphenols and their impact on the body:

- [Pubmed.gov/?term=pomegranate](https://pubmed.gov/?term=pomegranate)
- [Ars.usda.gov/pacific-west-area/davis-ca/natl-clonal-germplasm-rep-tree-fruit-nut-crops-grapes/docs/pomegranate-page/main/](https://ars.usda.gov/pacific-west-area/davis-ca/natl-clonal-germplasm-rep-tree-fruit-nut-crops-grapes/docs/pomegranate-page/main/)
- WonderfulPomegranateResearch.com

Features

- Over 100 studies on pomegranates, dietary polyphenols and ellagitannin structure.
- How to purchase, store and prepare a pomegranate.
- Glossary from Anthocyanins to Zeaxanthins including graphic of phenolics in 100% pomegranate juice.

Research Areas Include:

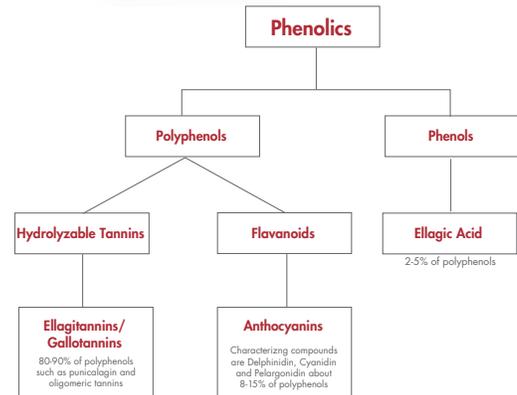
- Antioxidants & Bioavailability
- Athletic Performance
- Cognition and Memory
- Gut & Microbiome
- Nitric Oxide
- And more...

Key Findings:

- 100% Pomegranate Juice contains four times the antioxidants, on average, of green tea. The same in vitro study at UCLA found that pomegranate juice has, on average, more antioxidant capacity than red wine and grape juice[1].
- 100% pomegranate juice may have a positive impact on post-workout muscle strength. A preliminary study on 17 athletic men found that drinking 16 fl oz. of pomegranate juice daily for 2 weeks, with an additional 8 fl oz. ingested immediately after exercise on day 8, helped maintain more post-exercise arm strength versus the placebo group. Statistically significant results were not found for knee strength. These are early findings and research with larger populations is needed to establish causation and confirm long-term effects on muscle strength recovery[2].
- A pomegranate polyphenol study shows memorable results: A preliminary 2013 UCLA study found that a small group of 19 older adults with age-related memory complaints who drank 8 fl oz. of pomegranate juice daily had increased verbal memory performance and functional brain activity in fMRI testing after four weeks. Further clinical research on larger populations is needed to help establish causation and to determine the long-term effects of pomegranate on memory and cognition[3].

[1] Seeram et al., 2008. [2] Trombold et al., 2011. [3] Bookheimer et al., 2013.

For the whole body of research on pomegranates go to:
<http://www.pubmed.gov/?term=pomegranate>



Advertising Your Nutrition Business on Social Media

Melissa Mitri, MS, RDN



Melissa Mitri is a registered dietitian nutritionist and freelance writer in Connecticut. She is the owner of Melissa Mitri Nutrition, LLC, a private practice specializing in helping women who are chronic

dieters and struggle with emotional eating, helping them to move away from restrictive habits that lead to vicious yo-yo weight cycles. Melissa helps her clients by first determining the root cause of their eating habits, then addressing proper nutrition in order to create sustainable change. Melissa incorporates mindful and intuitive eating practices in her sessions and helps her clients get to a point of maintaining healthy habits consistently. Melissa uses social media regularly to advertise her business. You can find her on Instagram @ melissamitri_rd and on Facebook at Melissa Mitri RD.

If you own a nutrition business in 2020, having a presence on social media is essential. With more people than ever before looking to the internet and social media for nutrition advice and guidance, it is in your best interest as a business owner to learn how to create a presence on social media and then learn how to effectively market your services to your ideal client. While local connections and word of mouth will always be a great way to get referrals and build a network, only utilizing local resources will limit your reach and decrease your ability to impact more people needing RDN services.

Nutrition professionals are fortunate to have free marketing resources like social media that we can use to reach so many people. It's simply a matter of using those resources with strategy and purpose—to help potential clients learn who we are and why the client should work with us. Social media can open up so many doors for a business, if used correctly. This article addresses some of the social media mistakes RDNs may be making and how to use your time on social media more wisely. With practice, this will lead to increased income and impact in your own specific niche.

Common Social Media Mistakes

1. Speaking to everyone instead of identifying a niche in social media messaging

Like many RDNs, you may work with more than one type of client in your business. But in the social media world, your message is more powerful when you are speaking to one type of person. Therefore, if you have a specialty or favorite type of client, then tailor messaging to that group and their individual struggles. The message will then resonate more with the target audience, making it more likely that they will continue following and potentially become new clients for you.

2. Talking too much about the science and the “facts” but not enough about why it matters to your audience

Most RDNs have very scientific minds and like to talk about the science and evidence behind what we do. While this is very important and helps drive client care, potential clients may not understand the science or be interested in it. They want to know one main thing and one thing only—how you can help them solve their problems. RDNs can certainly share research studies; but when you do so, be sure to relate it back to how you've helped other clients with the same problem.

RDNs well-versed in social media always bring it back to how they can help their ideal client.

3. Posting random photos of yourself, family, or food you've eaten without a purpose or goal in mind

Gone are the days of gaining tons of followers with just having fancy food photos on Instagram or Facebook. In order to stand out from the crowd and capture the attention of an ideal client, you must know your ideal client like the back of your hand. Once you have done your market research and understand your clients' biggest struggles and goals, you can then create purposeful content that stands out rather than a pretty food picture that has nothing to do with how you help clients.

4. Spending too much time looking at what others are doing and comparing

The comparison trap is real and many RDNs fall into it. With social media, we can see what everyone else is doing in their businesses.

This can potentially create a feeling that we are never doing enough. Looking at others' follower counts, posts, or stories and then comparing yourself takes time and energy away from your own business. It truly doesn't help the RDN who is trying to build a business and a unique online presence but instead pulls you deeper into the rabbit hole of social media. When the focus and energy is put on your individual goals and online presence, you will be able to focus on what is best for your own ideal client—not someone else's.

Choose a Platform

Focus on building a presence on one platform at a time. Being EVERYWHERE is not effective and often leaves many feeling stretched too thin. Choose the platform where you believe your ideal client spends the most time. In order to know this, RDNs have to get to know their audiences through insights and tracking. You can see what the demographics are and where your people are “hanging out.” Remember that it takes time to build up a social media presence. It is important not to get frustrated and rush the process, because it takes time and consistent effort to have people get to know you, engage with you, and then want to work with you. You have to build the “know, like, and trust factor” through sharing stories that relate to your audience, being authentic, and showing up regularly. Once an audience is built on one platform, sales are made and clients are coming in consistently. Then it's reasonable to move on to a second platform if you choose to do so. That decision will be based on the goals of your individual business.

Storytelling and Authenticity

Being authentic and telling stories is a wonderful way to build trust among your audience on social media. We are all human, and showing that in posts and sharing stories makes the RDN more relatable and likeable. Through storytelling, you are able to relate to your ideal client on a deeper level, establishing more trust and rapport. This also helps the client to have an idea of

what it would be like to work with you. This is especially important for virtual counseling when the potential client cannot see the RDN. Video is one very powerful way of building that authenticity more quickly so your personality can be seen.

Staying Consistent

Consistently showing up on social media in the form of posts, stories, shares, and video is important to continue building rapport. For example, posting just once a week

without a consistent posting plan or schedule will not be as effective in leading to results. An audience has to see the RDN often in order to gain that rapport and remember to turn to you for guidance when they need it.

Using a Call to Action

Using a call to action when posting or storytelling on social media is critical. Otherwise, great information is shared, but what happens after that? RDNs should always be thinking about where

you are leading the client and how you want them to take action—for example, schedule a discovery call, download an opt-in, apply for a program, or purchase a product.

Social media is a powerful marketing tool as well as a way to connect with other colleagues in the field. Using it strategically and effectively will allow the RDN to maximize its benefit by enabling connection with the ideal client and ultimately selling your services.



Upcoming Conferences and Educational Opportunities

March 12-15, 2020 – 2020

International Health and Fitness Summit. Atlanta, Georgia.

<https://www.acsm.org/events-detail/2020/03/12/default-calendar/2020-international-health-fitness-summit>

March 13-16, 2020 – American

Academy of Allergy, Asthma & Immunology Annual Meeting. Philadelphia, Pennsylvania.

<https://annualmeeting.aaaai.org/>

March 22-24, 2020 – 44th Annual

American Society of Preventative Oncology Conference. Tucson, Arizona.

<https://aspo.org/annual-meeting/>

March 26-28, 2020 – The Forum for Integrative Medicine: Solutions for Complex Illness: Putting the Pieces Together. Seattle, Washington.

<https://forumforintegrativemedicine.org/>

March 28-31, 2020 – ASPEN 2020

Nutrition Science and Practice Conference. Tampa, Florida.

<http://www.nutritioncare.org/conference/>

March 31, 2020 – World Public

Health Nutrition Congress. Queensland, Australia.

<https://iuns.org/events/world-public-health-nutrition-congress/>

Electronic Mailing List (EML)

Recent Topics Review

- 18-year-old female patient taking Zoloft and Buspar for anxiety and depression. After a GeneSight® DNA test, her doctor suggested trying Deplin to help amplify the effects of Zoloft. RDNs noted that Deplin is effective but alters neurochemistry and the metabolism of psychotropic medications. An integrative psychiatrist would be a good support.
- RD2RD.com and the RD practice kit from Patsy Catsos (<https://www.ibsfree.net/ibs-free-store>) were suggested as places to find low-FODMAP diet handouts.
- Patient with alcoholic liver disease and history of encephalopathy.

RDNs suggested 3 grams/d of phosphatidylcholine (liposomal, true phospholipid PC, not triple lecithin), preferably with food, in divided doses. Also recommended: Liver Protect and MedCaps DPO from Xymogen, liposomal glutathione, sesame seeds, and gentle foods after Ultra Clear plus (from Metagenics) that help the liver “rest.” Be sure all supplements are in fully activated forms so liver doesn’t have to do biotransformation. No alcohol, caffeine, or Tylenol or anything they use to test/force detox pathway engagement. Recommend good sleep, pure water, lack of mold in home and work, no pesticides sprayed, no plastics for food or water, nothing fried (acrylamides), and consider silymarin (milk thistle).

- 72-year-old female diagnosed with collagenous sprue. RDNs suggested testing for underlying small bowel disease, particularly celiac disease.
- “Tough” client with unexplained pelvic pain, lower abdominal pain, cloudy urine, pain when wiping when going to the bathroom that is worse in the evening. It all goes away after 5-day period but returns each month. No burning, just pressure and discomfort. LEAP helped most other symptoms (mood, migraines) but pain continues. RDNs recommended probiotics and checking patient’s blood sugars. Testing for parasites, which are more active in evening. Testing for *Candida albicans*. Consider PT for pelvic floor dysfunction. Test to rule out interstitial cystitis, vulvodynia, ovarian or cervical cancer. Consider oxalates and yeast-containing foods in diet.
- Resources and remedies for migraine include migraine-oriented elimination diet similar to the one in the book written by Dr Buchholz, *Heal Your Headache*; keto diet; <https://www.migrainestrong.com/>.
- Patient diagnosed with Lyme disease. RDNs recommended Buhner’s herbal protocol for Lyme disease and co-infections, detox therapy and essential oils (like oregano and clove oils), homeopathy and Chinese

medicine. Also recommended Dr Yanuck’s Functional Immunology class via Pure Encapsulations.

- VSL#3 probiotic is no longer being made; Visbiome was recommended as comparable product.
- Remedies for hot flashes: GLA from evening primrose oil, Dimension 3 from Xymogen, regular exercise, lignin-based plant fiber, limited meat, and cold sleeping room. Also eggs, flaxseeds, almonds, soy, salmon, low oxalate greens, and oatmeal. Estrovera may help, as may black cohosh/Remifemin, red clover, ashwagandha, spearmint capsules, and Gai’a’s Female Support Formula.
- When limiting oxalates, consider that oxalate content of a food depends upon the soil where it was grown. Some foods are consistently high in oxalates, such as spinach, chocolate, rhubarb, beets, grapefruit, almonds, tea, wheat bran, sweet and white potatoes, and navy beans.
- 33-year-old female diagnosed with thyroid cancer. Thyroid and 3 parathyroids were removed (the remaining one was left damaged), and she now has difficulty regulating her calcium. She has low calcium, iron, magnesium, and potassium. She eats Tums all the time and frequently gets IV supplementation of calcium, iron, etc. RDNs suggested reducing her ingestion of Tums and taking calcium citrate or hydroxyapatite instead to make it more bioavailable and to avoid the complications that come with taking too many Tums. Also test for D3 status. Consider beverages and high oxalate foods that might be hindering absorption of minerals.

*The views and opinions expressed in the EML belong solely to the authors and do not necessarily reflect or represent the views of DIFM.



What's New - Journal Reviews and Resources

The Potential Link Between UVB Light Exposure and the Human Intestinal Microbiome

A clinical pilot study investigated the link between Narrow Band Ultraviolet B (NB-UVB) light, serum vitamin D levels, and the human intestinal microbiota in Canada during the months of February to April. A cohort of 21 healthy females was exposed to three NB-UVB light treatments within one week, leading to an increase in serum 25(OH)D levels by 7.3 nmol/L. Fecal samples from each participant were obtained showing a significant increase in alpha and beta microbiota diversity in those participants who were vitamin D deficient beginning the study. The authors of this study point out that sun exposure may contribute to seasonal variation in the human microbiome composition, independent of dietary changes. This may have greater importance for those with immune dysfunction.

Bosman ES, Albert AY, Lui H, Dutz JP, Vallance BA. Skin exposure to narrow band ultraviolet (UVB) light modulates the human intestinal microbiome. *Front Microbiol.* 2019;10:2410. doi:10.3389/fmicb.2019.02410

Reduced Insulin Secretion After Dietary Reduction of Branched-Chain Amino Acids

This study sought to find out if reducing the ingestion of branched-chain amino acids (BCAAs) would improve insulin sensitivity in patients with diabetes. In a randomized, double-blind crossover study, 12 participants received isocaloric diets for 4 weeks consisting of 1 g protein per kg of body weight. The participants had controlled type 2 diabetes, were between the ages of 40 and 60 years, and had BMIs of 28 to 35. During the second and fourth weeks of the 4-week study, all participants were randomly given a diet of a protein powder that either contained a proportionate amount of amino acids or a reduced amount of BCAAs. During the first and third weeks of the study, all nutrients were supplied in the form of commercially available foods.

Participants were tested through a mixed meal tolerance test (MMT), hyperinsulinemic euglycemic clamps (HECs; a test to quantify tissue's insulin sensitivity), and biopsies of skeletal muscle and white adipose tissue. The results showed that serum BCAAs were reduced when the patients ingested less BCAAs in their diet compared to the patients that ingested the powder containing a higher amount of BCAAs. Insulin secretion was lower and glucose sensitivity was higher following the reduced BCAA diet. However, increased whole body insulin sensitivity was not seen following the reduced BCAA diet. Increased metabolism rate via mitochondrial activity was seen in the white adipose tissue. The fecal microbiome was also tested, showing a higher population of Bacteroidetes and a lower population of Firmicutes.

Karusheva Y, Koessler T, Strassburger K, et al. Short-term dietary reduction of branched-chain amino acids reduces meal-induced insulin secretion and modifies microbiome composition in type 2 diabetes: a randomized controlled crossover trial. *Am J Clin Nutr.* 2019 Nov 1;110(5):1098-1107. doi:10.1093/ajcn/nqz191

Reduction of Corticosterone Response and Stress-Responsive Gene Expression after *Rhodiolarosea* Root Extract Supplementation

In this study, 7-week-old, male, Balb/c mice were given either 5 g/kg of *Rosea* or a glycerin placebo for two weeks. Following this, one group was exposed to acute mild stress, while the other group was not. Blood tests and brain autopsies followed the experiment to measure the mice's stress response and corticosterone levels. The mice who were given the supplement had lower levels of corticosterone in their blood following the stress, and their hippocampus and prefrontal cortex had an increased level of stress-responsive genes.

Dinel AL, Guinobert I, Lucas C, et al. Reduction of acute mild stress corticosterone response and changes in stress-responsive gene expression in male Balb/c mice after repeated administration of a *Rhodiolarosea* L.

root extract. *Food Sci Nutr.* 2019 Oct 22;7(11):3827-3841. doi:10.1002/fsn.3.1249

The Effect of Menaquinone-7 Supplementation on Vascular Calcification in Patients with Diabetes

This double-blind RCT studied 60 participants with type 2 diabetes and cardiovascular disease to determine whether taking a 360 µg/d menaquinone-7 (MK-7) supplement for 6 months would reduce vascular calcification. Thirty-three patients were randomly selected to receive MK-7, while 27 patients were randomly selected to receive the placebo. Calcification was measured at baseline and again after 6 months. The results were ambiguous; active calcification, measured by TBR (target-to-background ratios), increased in the MK-7 group but this was not statistically significant when compared with the placebo group. CT scans showed no change in calcification in the MK-7 or the placebo groups.

Zwakenberg SR, de Jong PA, Bartstra JW, et al. The effect of menaquinone-7 supplementation on vascular calcification in patients with diabetes: a randomized, double-blind, placebo-controlled trial. *Am J Clin Nutr.* 2019 Oct;110(4):883-890. doi:10.1093/ajcn/nqz147

Nutritional Genomics Research Publications – October 15, 2019

Courtesy of the International Society of Nutrigenetics and Nutrigenomics (ISNN) at www.NutritionAndGenetics.org/, and of www.Nutrigenetics.net.

Personalised nutrition technologies and innovations: A cross-national survey of registered dietitians. *Public Health Genomics.* 2019 Oct 9:1-13. doi:10.1159/000502915 [Epub ahead of print] (PubMed ID: 31597141)

The authors report on the findings of this survey, including the need for additional training/education.

Perspective: Guiding principles for the implementation of personalized nutrition approaches that benefit health and function. *Adv Nutr.* 2019

Aug 28. pii: nmz086. doi:10.1093/advances/nmz086 [Epub ahead of print] (PubMed ID: 31504115)

A panel of the North American Branch of the International Life Sciences Institute proposes a working definition of personalized nutrition and provides 10 guiding principles.

Interplay between the Mediterranean diet and C-reactive protein genetic polymorphisms towards inflammation in adolescents. *Clin Nutr.* 2019 Aug 23. pii: S0261-5614(19)33028-6. doi:10.1016/j.clnu.2019.08.016 [Epub ahead of print] (PubMed ID: 31500937)

The Mediterranean diet (with fish) was associated with lower levels of blood C-reactive protein, especially among those carrying the risk allele of the rs3093068 variant (near the CRP gene).

Vitamin D receptor (VDR) gene polymorphism and osteoporosis risk in White British men. *Ann Hum Biol.* 2019 Sep 11:1-4. doi:10.1080/03014460.2019.1659851 [Epub ahead of print] (PubMed ID: 31448632)

Genetic variants of the vitamin D receptor (VDR) gene were found to be associated with an increased risk of osteoporosis among Caucasian men.

Dietary compounds as potential modulators of microRNA expression in psoriasis. *Ther Adv Chronic Dis.* 2019 Aug 7;10:2040622319864805. doi:10.1177/2040622319864805 eCollection 2019. (PubMed ID: 31431821)

This article reviews the expression of microRNAs (eg, MIR155 and MIR146A) with regard to psoriasis and the potentially beneficial effect of various dietary items which may prove helpful for both prevention and treatment.

Role of personalized nutrition in chronic-degenerative diseases. *Nutrients.* 2019 Jul 24;11(8). pii: E1707. doi:10.3390/nu11081707 (PubMed ID: 31344895)

Nutrigenetics, nutrigenomics, proteomics, and metabolomics are described in relation to personalized nutrition, along with discussion of epigenetics and intestinal microbiota.

The influence of red meat on colorectal cancer occurrence is dependent on the genetic polymorphisms of S-glutathione transferase genes. *Nutrients.* 2019 Jul 22;11(7). pii: E1682. doi:10.3390/nu11071682 (PubMed ID: 31336627)

Variants in the GSTM1, GSTP1, and GSTT1 genes are discussed in relation to red meats and the risk of colorectal cancer.

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DIFM Symposium REVIEW: Hot Topics in Integrative & Functional Nutrition

Staci Belcher, MS, RD



Reviewed by Staci Belcher, MS, RDN, LDN. Staci is a registered dietitian nutritionist at the University of Georgia. Staci counsels students with eating disorders, provides nutrition education

to the University community, and assists in program development to educate students about healthy, well-rounded living. Staci's mission is to equip students with mindful strategies to understand their bodies, deliver practical nutrition education that can inform their choices, and empower them to create a strong foundation of health and wellness. Staci is currently serving as the CPE Editor for The Integrative RDN.

The Saturday prior to the 2019 Food & Nutrition Conference & Expo™ (FNCE®), integrative RDNs from all over the country gathered for the annual symposium. DIFM hosted four professionals from varying research, clinical practice, and industry backgrounds to enlighten integrative RDNs with information connecting physical and mental health, longevity, bioactive components of food, and recommendations for effective use of probiotics in clinical practice.

More Than Meets the Eye: How Unseen Factors Impact Nutrition and Health, David Wiss, MS, RDN

David Wiss, MS, RDN, began his presentation discussing the challenges facing nutrition research such as the difficulty of developing randomized controlled trials, the higher proportion of observational studies in the field, inaccurate methods for assessing dietary trends, and the emphasis of specific ingredients or nutrients in clinical research rather than the examination of whole foods. He acknowledged the challenge the field faces regarding financial conflicts of interest, researcher bias, and personal dietary preferences of researchers. Onto this foundation, Wiss layered on his research exploring the biopsychosocial contributors to nutrition and mental health.

Next, Wiss discussed the varying roles of the gut microbiome with an emphasis on its relationship to brain

health. Bidirectional communication between the brain and gut is mediated through the autonomic and enteric nervous systems as well as the neuroendocrine and immune system; the vagus nerve, spinal cord, and circulator system facilitate communication. It is from these communication channels that the relationship between nutrition and mental health becomes more nuanced. Inflammation and oxidative stress impact health of the brain, and changes in structure impact the function of the brain. For example, PET scans have revealed dysfunctional receptor signaling in the brain, which results in food being less rewarding to the individual, potentially impacting dietary choices.

Wiss reviewed theoretical models of sugar addiction, borrowing some concepts from drug addiction research. Reward encompasses “liking” as well as “wanting,” which are modulated by different areas of the brain. “Wanting” refers to cravings, desires, and motivation whereas “liking” refers to enjoyment and pleasure. Introducing highly palatable foods into the eating environment can complicate the individual’s drive to eat, especially when considering highly palatable foods may increase “wanting.” A characteristic of addiction is the “liking” becomes stable or even decreasing, while “wanting” increases; Wiss notes this pattern is present with highly processed foods.

Wiss concluded with a review of the clinical interventions he utilizes with individuals in recovery from opioid dependence. Individuals in recovery often present with delayed gastric emptying, constipation-related symptoms, and opioid-induced bowel dysfunction (dry mouth, heartburn, nausea, vomiting, abdominal pain and bloating). Wiss recommends increasing fiber by 2-4 grams per week to national recommendations from whole food sources. He emphasized a rhythmic pattern of eating every 2.5-4.5 hours. The diet is low in sugar, void of added sugars, and emphasizes anti-inflammatory omega-3 fatty acids.

Fasting and Fasting-Mimicking Diets in Health and Lifespan, Sebastian Brandhorst, PhD

Sebastian Brandhorst, PhD, reviewed the literature regarding fasting and fasting-mimicking diets and their impact on health and longevity. There are four experimental approaches to improve health and longevity through restricted eating.¹ In animal models, these approaches have increased the life span and result in protection from obesity, cancer, hypertension, and diabetes.

1. Caloric restriction: daily reduction in total calories by 15% to 40% in the absence of malnutrition
2. Time-restricted feeding: daily food consumption restricted to a 4-12-hour window
3. Intermittent or periodic fasting: restricting intake to very low calories in varying patterns (every other day or 2 days per week)
4. Fasting-mimicking diet (FMD): reducing energy intake to approximately 30% of needs for five consecutive days once per month up to 3-4 times per year

In animal oncology models, short-term fasting in combination with chemotherapy prevented stress resistance of cancer cells in mice and resulted in additional shrinking of tumor volume; there is a protective response for normal cells. Though research in human populations is limited to case reports, some efficacy of fasting for management of chemotherapy side effects has been reported.²

Health effects of FMDs in humans are limited. A cohort of 100 adults were randomized to a control diet or a FMD using a commercial supplemental beverage; 71 adults completed the FMD after two study arms were completed. The diet arm consumed a low calorie/sugar/protein and high polyunsaturated fatty acid diet for five consecutive days per month for three months. Following the three cycles, Wei and colleagues reported reductions in

body weight, trunk and total body fat, blood pressure, and insulin-like growth factor 1.

Researchers concluded the low risk and possibility in reducing risk factors for aging warrants further study.³

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Cranberries and Your Health: What the Latest Research Shows, Amy Howell, PhD

Amy Howell, PhD, reviewed the latest research on cranberries related to health, with an emphasis on UTI management and prevention. The key bioactive compounds in cranberries are anthocyanins (which lend to the red pigmentation of the fruit), flavonols, and proanthocyanidins (PACs). These bioactive compounds are anti-inflammatory, antibacterial, and serve as antioxidants in humans.

In UTI prevention, PACs in cranberries prevent *E coli* from binding to bladder cells, disabling the bacteria from infecting human cells. Cranberry has been recommended by numerous urological associations for UTI prophylaxis in women. This binding property of PACs also has been shown to be effective in preventing binding of *H pylori* to human stomach cells. Research has shown that cranberry juice has suppressed *H pylori* infections,^{1,2} and combining cranberry juice with antibiotic therapy improved the eradication rate of *H pylori* in women.³

Howell reviewed dosing of different cranberry products for

maintenance of urinary tract health. If consumers would like to include supplemental cranberry in their diet, label literacy is important to ensure they are getting a superior cranberry product. Consumers will soon be able to look for a USP verification label to ensure the product is made from pure cranberry, not the juice or dried skins. In the meantime, consumers should look for labelled PAC content (36 mg PAC adequate for healthy populations) and ensure PACs included are "live and active."

Every probiotic has a unique identity. The first identifier is the genus, followed by the species, and finally the strain. For example, for *Lactobacillus rhamnosus* GG, the genus is "Lactobacillus," the species is "rhamnosus," and the strain is "GG." Thomas emphasized the importance of looking for this level of specificity on products to ensure patients are receiving a probiotic that will actually offer benefit to their specific condition.

Daily consumption levels for maintenance of urinary tract health:

Cranberry powder supplements	500-2000 mg
Cranberry juice "cocktail" drink	240-300 mL
Dried cranberries	40 g
Cranberry sauces	100 g

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The Efficacy of Probiotic Supplements: Identifying Strains that Perform, Anthony Thomas, PhD

Anthony Thomas, PhD, provided a thorough dive into the therapeutic use of probiotics. Probiotics are defined by the World Health Organization as "live microorganisms that, when administered in adequate amounts, confer a health benefit on the host." Effectiveness is specific to the strain of probiotic, dose, and health condition present in the host.

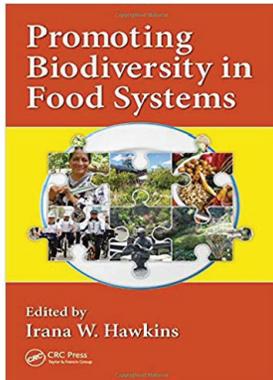
Frequently Asked Questions:

- **Are more CFU's better?** No, the dosing should be related to the dose shown to be effective for specific health outcomes in the clinical research.
- **Are more species/strains better?** Not necessarily; most clinical research studies individual strains or a small number of strains combined together.
- **Do probiotics need to colonize my gut to be effective?** No, probiotics transiently inhabit the gut and interact with the body and ecosystem to provide benefit.
- **Are all fermented foods a source of probiotics?** No, probiotics are only present if they have been added and remain viable.

To ensure the highest quality and effectiveness of probiotics, Dr. Thomas recommends dosing based on evidence from clinical research, strains that survive in the gut, and verification of the quantity. He advises practitioners to ensure a genus, species, and strain is specified on the label for every microbe present in the product. Finally, he recommended the International Scientific Association for Probiotics and Prebiotics and www.USprobioticguide.com as two references for RDNs seeking evidence-based guidelines on probiotics.

Promoting Biodiversity in Food Systems

CRC Press, Taylor & Francis Group, 2019.
Edited by Irana Hawkins
ISBN-13: 978-1138626973



As dietitians and healthcare professionals, and certainly as DIFM members, we focus on health and healing. It is our duty to recommend foods that help improve a person's health and well-being at all stages of life. With the recent focus and our increasing understanding of climate change, we need to realize that the foods we eat and prescribe should contribute to not just personal health, but planetary health as well.

The subject of climate change includes air and water pollution, population health, and industrial practices that have an impact on the environment and human health. Irana Hawkins, in the book *Promoting Biodiversity in Food Systems*, presents various topics on the importance of conservation and promotion of biodiversity with an interdisciplinary approach to help with the sustainability of this planet. Each section has chapters that are contributed to by various authors and experts.

The first section talks about the definition of biodiversity and how it impacts our food and health; the second section talks about actions we can contribute to the creation of sustainable solutions in each of these areas. Each chapter presents evidence-based research regarding health, population growth, environmental pollution, and climate change.

The book not only addresses the impact of the industrialized

food system on biodiversity loss, the planetary boundaries, and planetary health but also focuses on overlooked and underutilized solutions that offer co-benefits—such as a return to cooking and ending the reliance on disposable plastics in food packaging and daily food consumption, emphasizing personal health and wellness, offering strategies for healthcare providers such as recommending a plant-based diet and lifestyle medicine to decrease medication use and pharmaceutical pollution, using urban planning as a tool to bolster biodiversity and planetary health, and the importance of incorporating experiential learning in higher education as well as involving children in creating a healthy food system.

Lesser-known information about the role of popular foods such as chocolate, coffee, tea, and avocados in biodiversity loss and the role of the industrialized food system in food insecurity is discussed. The role of agroecology and regenerative agriculture is emphasized, while emerging techniques such as veganic farming are reviewed.

Demonstrated solutions offer inspiring accounts of how healthcare and food systems can be transformed to minimize environmental degradation and bolster biodiversity—whether it be the large multi-chain system of Tzu Chi hospitals in Taiwan or innovations in how some hospitals are positively changing the food system such as creating buying units to order health- and biodiversity-promoting foods in an effort to create a healthy regional food system.

It is pretty clear that biodiversity of the food system is crucial for food production, and the loss of biodiversity is of major concern. This book demonstrates the need for every person and organization to be cognizant of this subject and to collaborate to make a positive impact. From farmers to hospitals to food manufacturers to health professionals, we all have an important role to play.

The most effective strategy outlined in the book is a strong recommendation to choose plant-based foods that are sustainable, environmentally friendly, and

cost-efficient. Additionally, it is also recommended to choose and support organic produce and farming practices. A whole-foods, plant-centered diet is defined in this book, as a lifestyle that excludes all animal products and emphasizes nutrient-dense, minimally processed foods such as whole grains, beans, fruits and vegetables, nuts and seeds. The United Nations and the Food and Agriculture Organization have urged a shift towards a more plant-based diet for climate and environmental sustainability.

With our focus on food and health, RDNs are at the forefront of this challenge; and we should take an active role towards its solution. The book provides detailed information on nutrients, chronic diseases, and the environmental impact of food. It discusses the link between diet and food production practices on gut health and inflammation. It is quite evident that a plant-based diet is ideal for not only a diverse gut microbiome but also biodiversity of the planet. Therefore, the book contends that it is important that more healthcare professionals become educated on how to prescribe a whole-foods, plant-based diet. This book is a great resource on how we can start thinking from a higher vantage point and look at the bigger picture of achieving sustainable biodiversity and better health for humans and the planet.

Every individual, community, and country needs to make changes to help improve the health of the planet. This book details what we can do today and in the near future to increase biodiversity to help make the planet more sustainable for the coming generations.

Parul Kharod, MS, RD, LDN, is currently serving as Chair-Elect for the Vegetarian Nutrition DPG.

She has served in various other roles within VN DPG. She works as a clinical dietitian in Outpatient Nutrition Services at WakeMed Hospital in Raleigh, NC. Besides individual counselling, Parul also teaches group classes for the hospital's diabetes management program; advises at the Kidney Stone Clinic; and runs a support group for people with celiac disease, food allergies, and/or food intolerances. She is a frequent contributor for the hospital's nutrition blog and also writes a monthly health column for a regional magazine.



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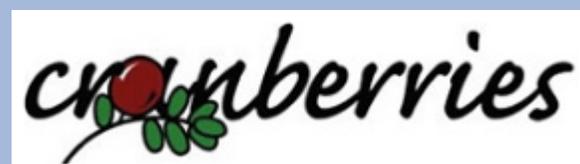
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