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Supplement Shelf: Social Supplements

By: Maude Magee



Who remembers sneaking more than the daily serving suggestion of those delicious sugar filled Flintstone vitamins when no one was looking? Laughing at the bad jokes on Laffy-Taffy wrappers with your friends? What about thinking that if you were to eat a pack of Pop Rocks followed by drinking a soda your stomach would explode? Feeling like nothing in life could possibly be as devastating as when you push the straw too aggressively through your Capri-Sun, and out the other side? If yes, welcome to "Generation Millennial", the largest demographic (by age) in the US as of 2016. If no, then you were probably the one raising this generation on Lunchables justified by making them their Flintstone Vitamins.

Now this generation M has survived through the agony and many hours spent begging mothers to wear any jeans but the high wasted light-wash ones they had on because it just wasn't cool; and is now a significant player in the adult world...most likely wearing their high wasted light-wash mom jeans.

Almost every industry is looking at these 18 to 35 year olds. Millennials purchasing power, and a lot of it. Because of this, their preferences and dollars are playing a greater role in shaping industry trends and driving markets. According to the 2016 Council for Responsible Nutrition (CRN) Consumer Survey on Dietary Supplements, 71%(+/-3%) of adults take at least one supplement a day.¹ This survey also found that the most popularly consumed supplements are the multivitamin, vitamin D, vitamin C, calcium and vitamin B/B complex.

What does this have to do with us? Let's get informed!

Our society tends to dive head first into the next nutritional supplement fad even when there is not a significant amount of research supporting the claims of the supplement. No U.S. government health agency, private health group, or health professional organization promotes regular use of any vitamins or minerals without first looking at the quality of a person's diet.¹ An article on WebMD covering the truth behind dietary supplements believes that one problem with society and supplements is that consumers may not be well cognizant about the safety and efficacy of supplements or do not understand the labels on products.² While supplements are not a bad thing, misuse of them can have negative consequences. The combination of limited knowledge, belief without scientific data, and generalized fads can lead to irreversible health consequences among many other undesired results. Diets and nutritional needs are so individualized it is almost impossible to say that someone needs to take a certain vitamin or they should take shots of apple cider vinegar every morning. Some people are unable to consume necessary vitamins and minerals from a restrictive diet. In these cases, dietary supplements are more of a filler than just another social obsession with the next thing that will help you drop 15 lbs in 5 minutes. If someone eats a balanced diet, then certain supplements can be a health risk due to overconsumption. For example, be particularly cautious with minerals and fat soluble vitamins A, D, E, and K. Water soluble nutrients, like vitamin C, are either used almost immediately or pass through your system. However, the fat-soluble nutrients that are excess are stored in the body which then leads to a buildup.³

We can change the way our society views nutrition. Our pull in the major industries does not exclude the nutritional industry. Millennials may be wearing mom jeans but we are nutritionally far from where the US was back in the 90s. Imagine how much more there is to learn about everything that is involved with nutrition and dietetics! If we start to enforce an investigative attitude then maybe, just maybe, big changes will occur. No longer trapped in a cycle of fad diets and supplements, we then can obtain the vitamins that we depend on directly from food instead of a pill, powder, or drink.

[1] <http://www.crnusa.org/sites/default/files/pdfs/CRN-WhoTakesDietarySupplements-2016data.pdf>

[1] <https://ods.od.nih.gov/factsheets/MVMS-HealthProfessional/#en35>

[1] <https://www.ncbi.nlm.nih.gov/pubmed/19957415> [1]
<http://www.webmd.com/diet/features/truth-behind-top-10-dietary-supplements#2>

In the Community:

Michelle Lynch



By: Tyler Gehm

St. Vincent's HealthCare is a faith-based, not-for-profit health system that has served the people of Jacksonville and the surrounding area since 1916. With the addition of St. Luke's hospital, (now St. Vincent's Southside) their history now extends to 1873. St. Vincent's HealthCare is also a member of Ascension, the nation's largest Catholic and non-profit healthcare system. Today, they are recognized for providing high-quality, compassionate care to everyone they serve.

The St. Vincent's Mobile Health Outreach Ministry offers a service where fully staffed doctors-offices-on-wheels drive to areas of the community where medical services are needed the most. This outreach is the only mobile provider of free acute and preventive medical care in Northeast Florida. One of the facets of this ministry is their Pediatric Nutrition & Wellness Initiative, which is a 9-week evidence-based program that brings awareness and prevention of childhood obesity, nutrition education and stress-reduction. The initiative focuses specifically on 3rd-5th graders in Duval County. The program is run by a full-time Registered Dietitian with the help of volunteer nutrition college students, keeping staff-related costs low while ensuring children are learning from educated professionals. The program's primary objective is nutrition education but also incorporates yoga, meditation and mindfulness activities. This dynamic strategy engages the students in a lesson of facts, fitness and fun. The nutrition-based lessons educate the children appropriate portion sizes, smart beverage choices, food label analysis, basic food preparation, MyPlate®, 5210, SMART goal-setting and mindfulness. The classes are non-traditional where the students can interact with hands-on activities, work with real food, spend time outdoors, expand their awareness of healthy eating, play games and have a good time throughout the program.



St. Vincent's Mobile Health Outreach Ministry's Registered Dietitian, Michelle Lynch, MSH, RDN, LD/N facilitates the initiative, while managing student volunteers and interns from the University of North Florida's Department of Nutrition and Dietetics program. Michelle Lynch is a Registered Dietitian Nutritionist and alumni of the University of North Florida, where she graduated with her BSH in 2007 and Master's in Science and Health combined 1200 hour Dietetic Internship hour in 2008. Before graduation, Ms. Lynch was hired directly into the field of Dietetics in her main background, food service management.

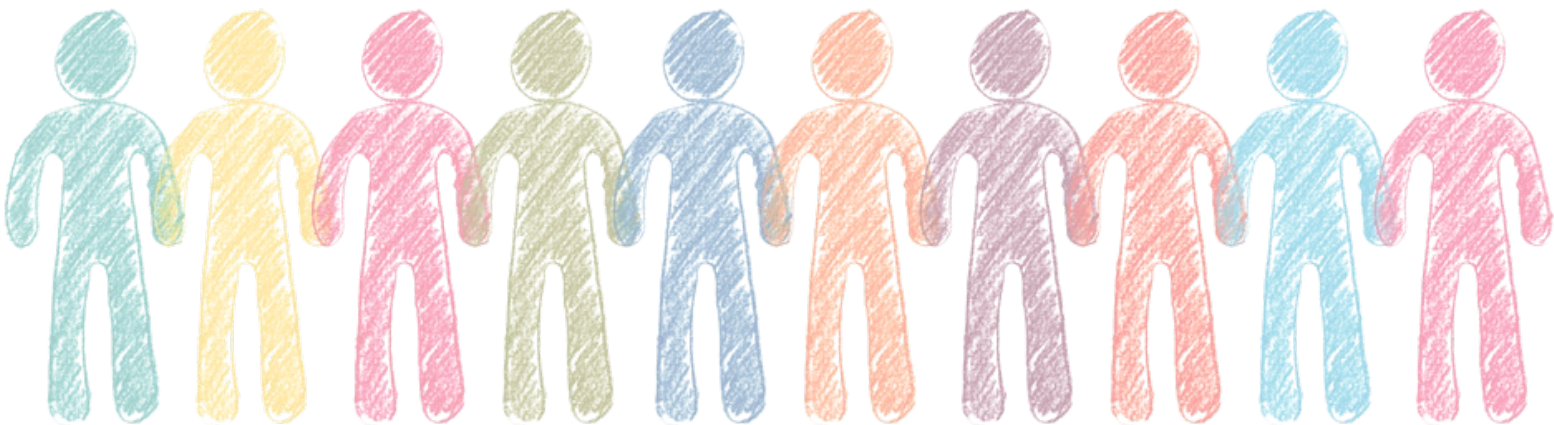


She moved to Miami, FL a week after graduation for that job opportunity. Later on, Ms. Lynch discovered her other passion in dietetics, renal nutrition. She refocused her career goals and has obtained 4.5 years of experience working in out-patient renal dialysis. Though focused on the Nutrition & Wellness initiative, she still enjoys keeping her clinical and motivational interviewing skills up by working for Fresenius Kidney Care. In 2014, Michelle was offered the position as Pediatric Community Dietitian for the Pediatric Nutrition & Wellness Program at St. Vincent's Mobile Health Outreach Ministry, under its original name "Way to Go Kids". The program "Way to Go Kids!" started at St. Vincent's Mobile Health Outreach Ministry in 2004 with their former RD. The program was entirely lecture-based in an

after-school setting and was less conducive to teach 3rd-5th graders. In early 2014, Ms. Lynch graduated from MBody Yoga's 200-hour Certified Registered Yoga Teacher Training Program (currently she is completing MBody's Embody World Class Mastery 300-hour yoga teacher training). She was able to incorporate her yoga teacher training into the nutrition lessons. The new direction creates a complete wellness education program geared toward a mind, body and spirit direction of healthy eating.



During 2015-16, Ms. Lynch and Tonya Hong-Tham Fraser, the Student Nutrition Volunteer Program Lead (currently a MS/Dietetic Intern at UNF) worked diligently together to turn the program around into its present form.



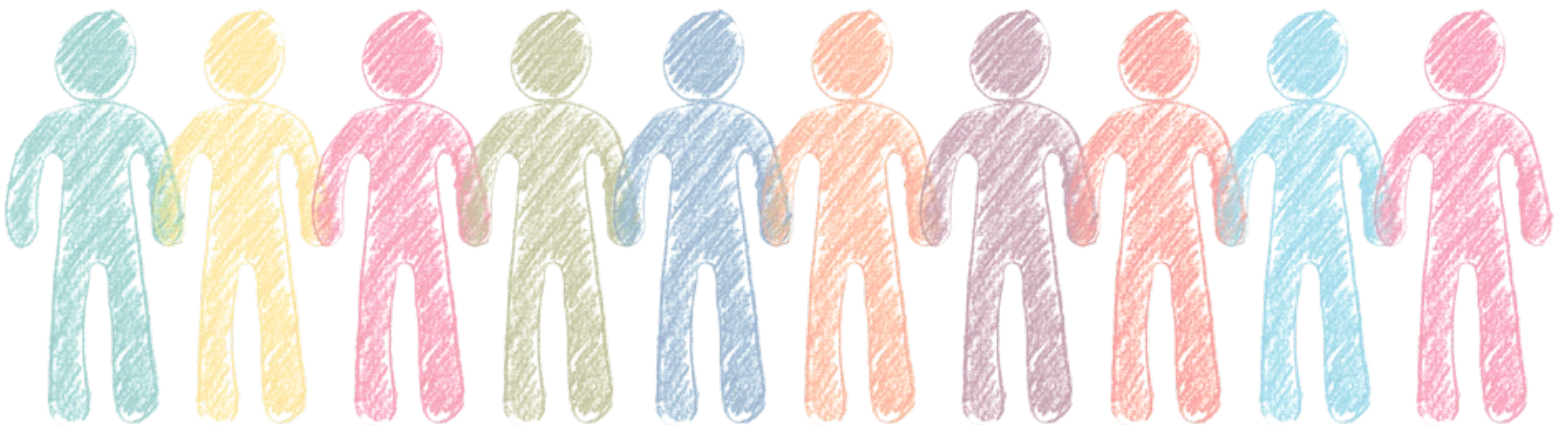
In August 2016, the program took a huge leap forward as Ms. Lynch and St. Vincent's Foundation applied for the Cultivating Healthy Communities, Healthily Behaviors- Aetna Foundation grant. The Aetna Foundation received thousands of applications across the nation. St. Vincent's Mobile Health Outreach Ministry's Pediatric Nutrition & Wellness Initiative was one of 23 non-for profits to be selected. Michelle's program was given a \$100,000 grant over the course of 2 years (September 2016-September 2018) to propel the program's mission into its full potential. According to the most recent Community Health Needs Assessment for Duval County, lacks nutrition and overall health education. This grant is momentous for providing the funding to allow such a positive influence among youth and future in Duval County.



St. Vincent's HealthCare's mission in action is demonstrated through its Mobile Health Outreach Pediatric Nutrition and Wellness Initiative. It delivers a nine-week nutrition and wellness program to the underserved students within Northeast Florida in grades 3 through 5. Additionally, St. Vincent's has established positive relationships with many schools and organizations who wish to continue offering this program year after year. Thanks to the Aetna Foundation, St. Vincent's has already partnered with at 15 different schools and after-school programs across Duval County in Arlington, Westside, Urban Core and North-side, which 237 children have participated so far. These inspired young minds have increased their intake of fruits and vegetables, increased their physical activity, participated in more stress-reduction activities, and report generally feeling healthier after participating in this program



St. Vincent's Mobile Health Outreach Ministry's Pediatric Nutrition & Wellness Initiative are currently at summer camps throughout Duval County and will be busier than ever when school begins again in the fall. UNF Student Nutrition Volunteers will be needed as the program continues to expand, which can be an excellent experience for those who are looking for nutrition-related community involvement. If you are interested in volunteering, please contact Michelle Lynch via e-mail at Michelle.lynych1@ascension.org





Nutritional Updates

By: Michelle Wolff

Food Trends

Bone broth is made from simmering bones that have a small amount of meat on them in water for anywhere from 8-24 hours. This process helps to release healing compounds such as collagen, proline, glycine and glutamine.¹ Furthermore, minerals from the bones leach into the broth including calcium, magnesium, phosphorus, silicon, sulphur and are highly absorbed by the body. Bone broth has been shown to be extremely beneficial for the gut, especially for people with leaky gut or digestive issues. The gelatin helps to restore the strength of the gut lining (which is compromised in those with leaky gut), as well as fight food sensitivities.¹ Bone broth is very soothing for the body, and helps to keep things moving along. Other benefits include protection of joints, maintains healthy skin, supports immune system, aids in metabolism, and boosts detoxification. Bone broth may be enjoyed simply as a drink, or used in cooking such as in soups and stews.

Bone Broth

Kimchi

Kimchi is a traditional fermented probiotic food that is a staple Korean side dish. It is made by fermenting vegetables such as cabbage, radish, scallion, cucumber, red chili paste, and garlic in tight sealed glass jars for several days and up to several months. During this process, it produces live and active probate cultures and develops a sour and spicy taste.² Lactobacilli and lactic acid are the two predominant types of probiotics produced during the fermentation process and contribute greatly to the overall benefits of kimchi.² One of its main benefits is boosting immunity, and years ago when the SARS epidemic began spreading, researchers actually speculated that kimchi may have helped play a role in protecting the Koreans. Recently, it has been claimed to prevent bird flu. In addition to keeping ones immune system in tract, kimchi has also been show to improve digestion, reduce cravings, and promote healthy skin. It has a strong nutrition profile being low in calories (96 per half cup) and high in fiber and protein. Kimchi can be enjoyed alongside any dish or even eaten alone.

Supplement Trends

Studies have shown that the majority of people (80%) are not getting enough magnesium, likely because the amount of magnesium required by the body is more than people think.³ It's very easily depleted through stress on the body such as intense exercise or an emotional mental state. On the other hand, people seem to be getting a lot more calcium than magnesium which throws the body off balance. Calcium helps muscles to contract, while magnesium helps them relax and thus one needs an equal balance of both. By supplementing with magnesium, one can help to restore their magnesium levels, as well as balance their calcium intake. This in turn will help reduce stress and put one into a more relaxed state. In addition, magnesium may help to reduce insomnia, relieve constipation, and relieve muscle aches.³ There are many different types of magnesium that can be taken, and one should choose based on their specific needs. These different types of magnesium can be found in different forms including pills, powders, and gummies.

Magnesium

Turmeric

Turmeric is a common spice most notably used in spicy curry dishes. Recently, the powerful herb has been getting more attention for its benefits beyond making a delicious meal. Multiple peer-reviewed articles now populate the web discussing the healing properties of turmeric, especially one compound found in it called curcumin. Many of curcumin's effects actually surpass certain medications and holistic doctors have started to replace these with turmeric supplementation. Some medications it has been shown to be able to replace are anti-inflammatory drugs, anti-depressants, anti-coagulants, pain killers, diabetes drugs, arthritis medications, steroids, and inflammatory bowel disease drugs.⁴ One of the most notable advantages of curcumin is its lack of side effects. Although side effects such as nausea and low blood pressure may occur, it's likely only in extremely high doses. Turmeric can be taken in supplement form or enjoyed in various recipes such as turmeric tea, turmeric eggs, and various curry dishes.

Wellness Trends

With everyone's on the go, busy day to day schedules, it's not surprising that yoga has started to become a popular way for people to wind down and distress. Yoga classes are offered at many gyms now, and yoga studios are popping up almost on the daily. Yoga combines physical movement with breathing techniques to bring a meditative focus as well as relaxation⁵. One of its main benefits is its effect on people's anxiety and stress levels. Studies have found that yoga minimizes inflammatory responses to stressful encounters.⁵ That, in turn, reduces the health burden that stress places on an individual. In addition to helping with stress, those who practice yoga regularly have reported having better quality sleep, improved flexibility and range of motion, reduced fatigue, and an overall improved quality of life.

Yoga

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UNF is ranked in the Top 75 in the country for "Best Online Graduate Education Programs," which includes data of nearly 1,000 distance education programs nationwide.

Diabetes on the Rise

By: Hannah Gibson



As a person intrigued by nutrition, health, and natural medicine, I feel like I hear things about diabetes every day: diabetes linked to this, don't eat that you could increase your chances of diabetes, or even that diabetes is on the rise as a leading cause of death in the United States. When I took a step back, I realized that I was actually really unfamiliar with the concept of diabetes before becoming a nutrition major in college, so I wanted to take a brief moment to explain the difference between Type one and Type two.

Type one diabetes is known as the genetic version of the two health complications. It commonly occurs in individuals under twenty years of age, and results in high blood sugar levels in the body as the pancreas cannot create enough insulin. There is not a known way to prevent the development of type one diabetes but it can be maintained with a proper diet and insulin therapy. Type two diabetes is a long term metabolic complication characterized by high blood sugar, insulin resistance, and an overall lack of insulin. This type primarily occurs as a result of obesity and a lack of exercise, but can also be contributed to by predisposed genetics. This type is preventable by maintaining a normal weight, eating properly, and exercising regularly. It is also one of the fastest growing health conditions in America today.

Dr. Mayer-Davis, the Department of Nutrition chair at the University of North Carolina Gillings school of Public Health in Chapel Hill, recently analyzed data to create a linear model depicting the rise of diabetes in children. What they found was that Type one diabetes was increasing by about 1.8% annually, while Type two was increasing by more than 4.8%. In addition to the snowballing numbers of young adults developing these conditions, 2,846 individuals between the ages of ten and nineteen were found to have developed Type two diabetes as a result of findings a "Search for Diabetes in Youth Study"; type two diabetes has been traditionally known to affect individuals over the age of forty-five.

The findings of this study should be alarming, and hopefully if you're reading this magazine you are already more health-aware than your average American, but don't be afraid to reach out to someone who needs help! Stay tuned for updates and eat your veggies!

<http://www.medpagetoday.com/endocrinology/diabetes/64529>

<http://www.nejm.org/doi/full/10.1056/NEJMoa1610187>

Effects of Avocado (*Persea Americana*) on Metabolic Syndrome:

A Comprehensive Systematic Review



By: Katie Wolf

When you are at Chipotle Mexican Grill and the lady behind the counter says to you, "Would you like guacamole with that?" do you say yes or no? Eating avocados has been shown to provide nutrients to your diet such as carotenoids, fatty acids, vitamins, and minerals. Incorporating avocado flesh, seed, peel, and leaves plays an important role in the diet for people who are at a high risk for metabolic syndrome, type 2 diabetes, and cardiovascular disease. The avocado fruit originated in Mexico, and Central/South America. Avocado grows on an evergreen tree and is also known as the "alligator pear" or "butter pear".¹ Studies were conducted including clinical studies, *in vivo*, and *in vitro* to test the effects of avocado on high glucose levels, lipid profile, high blood pressure, atherosclerosis, and antioxidant activity.

The effect of avocado on high glucose levels was found to have significantly maintained glycemic control when 12 women consumed a diet high in monounsaturated fatty acids (oleic acid from avocados and olive oil). Another randomized clinical trial studied over weight adults and showed that eating half of Hass avocado significantly reduced the blood insulin and glucagon-like peptide-1 levels.¹ Likewise, a study showed that eating an avocado at lunch stopped the rise of blood insulin and assisted the state of

satiety and craving to eat leading to an anti-obesity effect. The *in vitro* and *in vivo* studies were consistent with the clinical trial and showed that avocado had an antidiabetic effect via regulating the glucose uptake in the liver and reduced insulin resistance.¹

Not only can avocados lead to anti-obesity, the avocado fruit had the most significant impact on lipid levels. 15 women included avocado in their diet for 3 weeks. A decrease in total cholesterol, low-density lipoprotein cholesterol and apolipoprotein B was observed. Another study was conducted where patients consumed a diet rich in monounsaturated fatty acids using avocado as the major source for four weeks in which 30% of the total calories were consumed as fat and 75% of total fat from avocado.¹ The results lead to a significant decrease in total cholesterol and low density lipoprotein cholesterol.¹ Furthermore, a clinical trial in healthy participants, adding avocado to a vegetable based diet helped increase the absorption of many carotenoids and supports lipid lowering actions. The fruit, seed, and leaf extract were shown to also have a lipid lowering affect in rats the *in vivo* and *in vitro* studies.

Including avocado in a diet can result in anti-obesity effects. In fact, according to McKinsey Global Institute report, by the year 2030 it is estimated that 41% of the world population will be overweight or obese.¹ Overweight and obese participants with a body mass index of 27-44 kg/m² were studied and evaluated. These participants ate one avocado for six weeks. Decreases in body mass index, body weight, and body fat were observed.

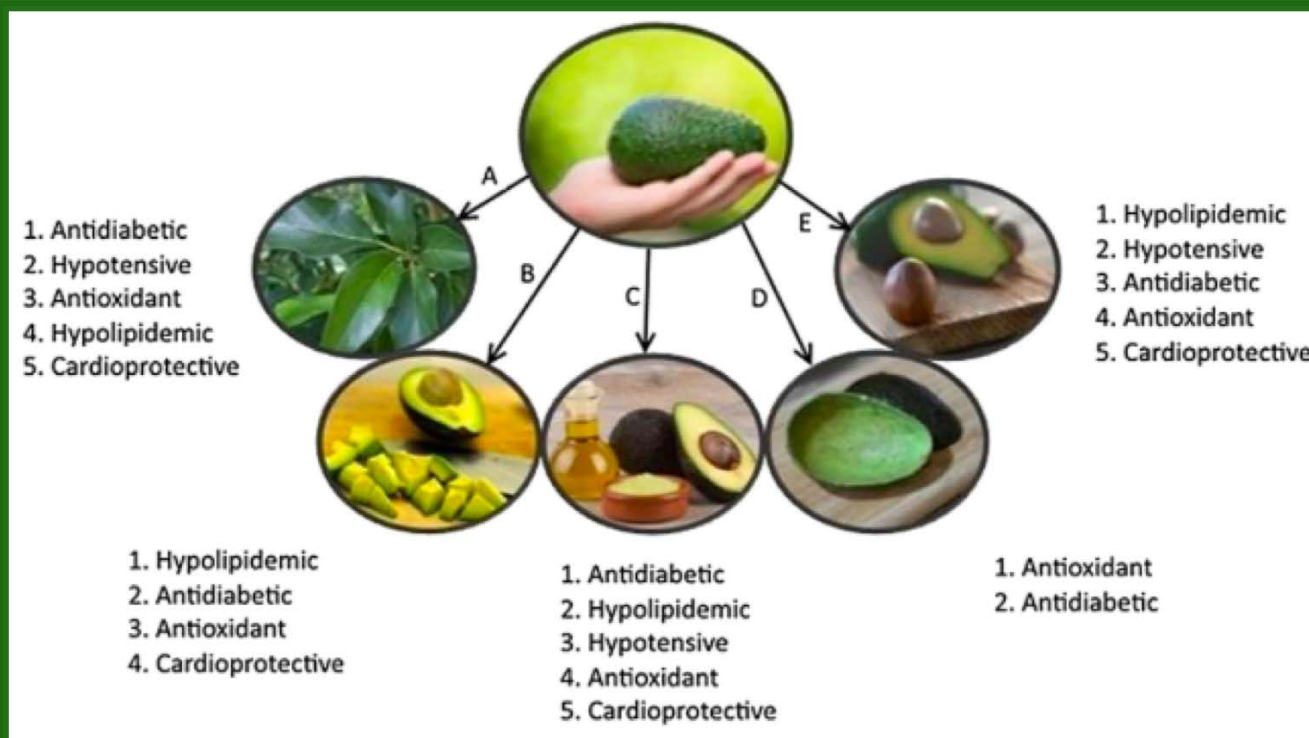
With many people around the world experiencing hypertension, many studies have been done to evaluate the effect of avocado as a remedy for hypertension. One study used 60mL/day of liquid leaf avocado extract on patients who had hypertension.

Reduction in plasma cholesterol and blood pressure were seen. In one in vitro study, it was found that the seed of the avocado had more antihypertensive role compared to the leaf extract, which had more antioxidant role, which can scavenge oxidative stress radicals.

Overall, the research that was compiled concluded that avocados might be beneficial for the treatment of risk factors that are associated with metabolic syndrome. Not only does it provide essential vitamins and minerals, it may provide a reduction in lipids, aide in weigh loss, lower blood pressure, depress your appetite and give your body a boost of antioxidants.

So, the next time you are at Chipotle Mexican Grill and the lady behind the counter asks “Would you like guacamole with that?”

Do you say yes or no?



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Consumers and “clean food”: Where is the clean label trend going next?

By: Heather Allen



As knowledge of eating healthier and more consumers attempt to lose weight increases, the lingo of food labels has become a very important part of marketing products. Words such as, “natural” and “clean” have drawn consumers to products making them feel like they are making wiser decisions by eating food that contains less chemicals, hormones, antibiotics, or color additives, etc.¹ The ingredients list contains words that an average person does not recognize or cannot pronounce is increasingly more and more. The term, “Clean” is trending word that means, “healthful ingredients.” People correlate “clean” with fresh, natural, less processed, and healthier. While this may be debated depending on the food item, it is the need to market a food item as a healthier option making it essential for brands to continue to do.

the food item, it is the need to market a food item as a healthier option making it essential for brands to continue to do.

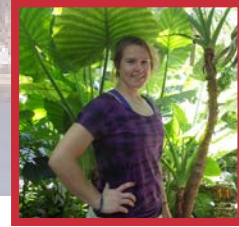
The problem with claims such as these is that they may be misleading to customers who do not question terminology used. One CEO admitted that once consumers questioned what "natural flavors" meant in the supposedly natural sparkling water, some changes needed to be made.¹ Manufacturers are not required to disclose what ingredients such as, "natural flavors" really mean. Therefore, it is easy to be misguided by the terms used by businesses to sell their products. Overall, "clean" does not have an exact definition; this allows for a very broad use of the word in food industry. When making decisions on purchasing food, looking at the ingredients list is the best way to redirect most of the common misconceptions that people face when labels attempt to describe their product as healthy, clean, or natural.

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WHAT HEALTHY REALLY MEANS ON A FOOD LABEL

By: Kea Swarz



Health conscious shoppers are attracted to “healthy” and “natural” products. The problem is, those words can be misleading to shoppers looking at those claims on a food label. Nutritional marketing is usually found on products that are high in saturated fats, sodium, and sugar. These health claims could be harming consumers by increasing their expectations of the healthiness of the product. Additionally, claims on labels have been around for a long time and it wasn't until the 1967 Fair Package Labeling Act and the 1990 Nutrition Labeling and Education Act that required the net quantity of packaged foods to be labeled as well as standardized serving sizes and regulating the use of terms like “low fat”. Still, food manufacturers who use health claims on their products do not have to print the standard disclaimer that says “have been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.” That said, if a manufacturer wants to market a product as being “a good source of fiber,” but the food is also high in sodium, it needs to have a disclosure statement to the degree of “see nutritional information for saturated fat content.” Sadly, these warnings rarely discourage consumers from purchasing these products. As long as the statement on a food label isn't recognized as a disease statement manufacturers can use these claims without the need of the FDA's approval.¹ Some products have taken this freedom too

far. Kind Bars are a perfect example of this. Last year the FDA sent a warning to Kind bars saying that the word “healthy” should be removed from the label, because it is a nut-dense bar. According to the FDA the bars “do not meet the requirements for the use of the nutrient content claim” because the bars have a high fat content. The term “healthy” can only be applied to foods that are low in saturated fat and cholesterol and a certain percent of vitamins must be present in the food. Kind has asked the FDA to revise their requirements for labeling to reflect current opinions on fat intake. This would exempt certain foods that are considered beneficial including nuts, avocados, olives, and salmon. This case shows how complex food policy and labeling can be as well as how confusing it is to consumers.² With all this in mind, there are easier ways to avoid false health claims. Healthy foods are those that are made with few ingredients as opposed to manufactured ingredients with unrecognizable names. Single ingredient foods like bananas, and green beans are healthy, but frozen dinners made up of quinoa, broccoli, bell peppers, and tofu can be healthy as long as they don't contain too many additives.³ Although making good choices while grocery shopping can be difficult sticking to whole foods and pronounceable ingredients while avoiding health claims about particular ingredients on a food label can help in making healthier choices for you and your family.

What does that label really mean?

While some label definitions are regulated by the FDA, some are not — and often, it's hard to tell the difference. Here are the claims **that go unregulated by the FDA**:

- *"Lightly sweetened"*: Though terms like "sugar-free" are regulated by the FDA, this term is up to the manufacturer's discretion.
- *"Natural"*: While it may imply a product that is made with whole ingredients and minimal processing, the term has no legal definition. However, manufacturers have been sued by consumer groups or made to remove the term from products made with artificial ingredients.
- *"Made with real..."*: This phrase is often used to describe products made with "real fruit" and while the product must have some fruit somewhere to not be considered misbranded, there are no limits as to how much fruit it must be "made with."
- *"Multigrain"*: People often see this term as synonymous with "whole grain" but it simply means that there is a mixture of grains used — none of which have to be whole.

These labels **must meet specific FDA regulations** in order to appear on a food product:

- *"High in" or "Excellent source of"*: Must have 20 percent or more of the recommended daily value of the given nutrient per serving.
- *"Good source of" or "Contains"*: Must have 10-to-19 percent of the recommended daily value of the given nutrient per serving.
- *"Fortified" or "Enriched"*: Can only apply to vitamins, minerals, dietary fiber, and potassium. Must contain 10 percent or more of the recommended daily value than a comparable food.
- *"Antioxidant"*: To qualify as an antioxidant, a food must have a recommended daily intake, scientific evidence of antioxidant properties, and enough of the nutrient per serving to qualify as a "good source of" the antioxidant.
- *"Healthy"*: These foods must meet a long list of requirements including being low in fat, sodium, cholesterol, and contain at least 10 percent of the recommended daily value for important nutrients like vitamin C or calcium.
- *"No added sugars"*: While a product may contain sugar, no sweeteners were added during processing.
- *"Light"*: Food must be low-calorie, low-fat, and have sodium content reduced by 50 percent compared to similar products.
- *"Low-fat"*: Food must have three grams or less of fat per serving.
- *"Low-calorie"*: Food must have 40 calories or less per serving.

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Low Iron, No Symptoms, No Problem?



By: Malarie Warren

Iron deficiency, a modern day public health epidemic, is prevalent across the world both developing and industrialized countries. It is a condition that affects nearly 40% of preschool children and, “The major health consequences include poor pregnancy outcome, impaired physical and cognitive development, increased risk of morbidity in children and reduced work productivity in adults”.¹ Symptoms most commonly experienced by patients with low iron levels include: headaches, fatigue, and depression. Dr. Nancy Berliner, of the American Society of Hematology, explains that not all patients experience these symptoms.² Is Iron deficiency really an issue if there are no symptoms? Does a patient need to be concerned? Absolutely. Dr. Berliner explains that deficiency can most likely turn into iron-deficiency anemia, because of the very nature of the condition. Low iron means that the patient is losing blood, bleeding somewhere, whether it is due to a menstrual cycle, gastrointestinal bleeding, or colorectal disease. If this loss of blood is continued, it will result in anemia. As ubiquitous as iron deficiency is in both developing and industrialized countries alike, it is also one of the most curable conditions to date. Iron supplements are usually sufficient to restore iron levels, but dietary changes can make a huge impact. The important part is finding out the root of the issue to ensure there are no polyps, ulcers, or cancer cells that need treatment outside of the deficiency.² As expressed in table 1, it is recommended that men between the ages of 19 and 50 years of age consume 8 mg of iron each day and women, 18 mg each day. This table increases under other conditions such as pregnancy and lactation.

Age	Male	Female	Pregnancy	Lactation
Birth to 6 months	0.27 mg*	0.27 mg*		
7–12 months	11 mg	11 mg		
1–3 years	7 mg	7 mg		
4–8 years	10 mg	10 mg		
9–13 years	8 mg	8 mg		
14–18 years	11 mg	15 mg	27 mg	10 mg
19–50 years	8 mg	18 mg	27 mg	9 mg
51+ years	8 mg	8 mg		

Heme Iron is the most bioavailable form of iron for the body and is present in significant amounts in poultry, seafood in meats. These foods also contain non-heme iron, another form of iron that is present in grains, beans, and leafy greens.³ A balanced diet is key to optimal health. If you ever find yourself asking “Should I be concerned about my low iron if I don’t have any symptoms?” know that the answer is yes, yes you should. So go enjoy a nice spinach salad with some chicken (oh and don’t miss that annual checkup), your body will thank you.

"..It is recommended that men between the ages of 19 and 50 years of age consume 8 mg of iron each day and women, 18 mg each day."

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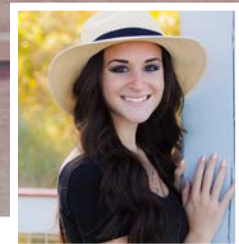
Tables:

Table 1: Recommended Dietary Allowances (RDAs) for Iron. Institute of Medicine. Food and Nutrition Board. *Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc : a Report of the Panel on Micronutrients* . Washington, DC: National Academy Press; 2001.

Celiac Disease and Anorexia

Nervosa: Could they be linked?

By: Rebecca Reidel



Celiac disease is an immune disease in which gluten damages the small intestines causing pain and irritability. ¹ Considering gluten is found in many foods, such as wheat, rye, and barley, people with celiac disease (CD) must pay close attention to their diets. On another note, anorexia nervosa (AN) is an eating disorder that causes weight loss from a decreased consumption of food, therefore a reduced caloric intake. The causes of AN are not known, however, many factors are thought to be involved, such as genes, hormones, and social attitudes. ² Interestingly enough, recent studies have shown that CD and AN have been linked.

In the past, data showing that CD and AN are linked has mostly been case reports, researchers sought to find answers that aimed to determine their association through a cohort, case-control study. The researchers accessed records from Sweden's 28 pathology departments for 17,959 cases of small intestinal biopsy-verified CD in women from 1969 through 2008 and 89,379 sex- and age-matched population-based controls. ³ They also identified AN cases through inpatients and outpatient records.

Researchers found that 42 patients with CD were diagnosed with AN and the hazard ratio for later AN was 1.46 (95% confidence interval [CI], 1.08-1.98) and 1.31 beyond the first year after CD diagnosis. ⁴ The study concludes that the association between CD and AN should be considered when evaluating the first assessment because there is potential for misdiagnosis or underdiagnoses when dealing with these two conditions. This is partly due to an overwhelmingly high number of similar symptoms, such as abdominal pain, bloating, diarrhea, and weight loss.



The researchers hypothesize three possible explanations for the bidirectional findings of this study which include:

- CD may have been misdiagnosed earlier as AN, or vice versa;
- Closer scrutiny of patients diagnosed with one condition may have led to a surveillance bias in detecting the second condition; and
- A shared genetic susceptibility may have increased the risk of developing both conditions.³

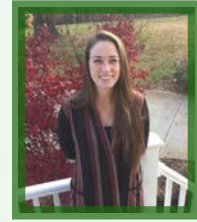
Understanding how CD effects the body allows us to evaluate how patients with CD plan their meals, and therefore this can have a potential cause-and-effect relationship in the long-term with AN patients' eating patterns. Although there is more research to be done, there is no denying that these very separate conditions can indeed be linked.

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Olive Oil Consumption Associated With Reduced Type 2 Diabetes Risk.

By: Shannon McCarthy



Type 2 diabetes is a global health problem affecting more than 382 million people worldwide and 29.1 million adults in the United States.¹ Diabetes is a problem with the body that causes blood glucose (sugar) levels to rise higher than normal. This is also known as, hyperglycemia. Type 2 diabetes is the most common form of diabetes. If someone has type 2 diabetes their body does not use insulin properly; this is known as, insulin resistance. At first, the pancreas makes extra insulin to make up for it. But, over time the pancreas is not able to keep up and cannot make enough insulin to keep the blood glucose at normal levels.² Olive oil is made from an ancient technique of squeezing and pressing the juice out of fresh picked olives. Olive oil has already been shown to improve various cardiovascular risk factors and now been shown to be associated with a decreased risk for type 2 diabetes.¹

Many studies have been conducted relating olive oil consumption to these positive health effects. Each study has its own limitations and variables, which show these results. One study showed that women who consumed more olive oil also ate more fish, whole grains, fruits, vegetables and nuts. This is a huge factor in this study because it is not possible to then single out just the olive oil as the main reason for type 2 diabetes risk being lower.³ This being said though many studies have shown olive oil and its association with reduced type 2 diabetes risk, in men and women. Lifestyle changes and healthier eating habits along with consuming olive oil is a great way to reduce risk of type 2 diabetes. Replacing 1 tablespoon of margarine, butter, or mayonnaise with 1 tablespoon of olive oil was associated with a predicted lower risk of type 2 diabetes. There was a 5% lower risk when replacing margarine with olive oil, 8% lower risk when replacing butter with olive oil, and 15% lower risk when replacing mayonnaise with olive oil.³ It was also suggested by researches that replacing fat-based salad dressing with olive oil should be considered for reducing type 2 diabetes.¹ Diets like the Mediterranean diet include olive oil in large amounts. About two thirds of their vegetable fats come from olive oil.⁴ The Mediterranean diet may be suggested to those looking to reduce risk for type 2 diabetes. This diet consists of whole grains, fruits, vegetables, little to no processed foods, olive oil as the main source of fat, less red meat and more fish. Consuming olive oil daily is said to improve glucose metabolism in adults that were studied that already had type 2 diabetes.⁴ This evidence shows that the intake of olive oil could be beneficial for the prevention and management of type 2 diabetes.⁵ Replacing salad dressing and condiments with olive oil is beneficial and a suggested way to reduce rise of type 2 diabetes.

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The Science Behind Kefir Based Milk Products

The dairy aisle has expanded tremendously in recent years with an abundance of new products. Whether it be a new Greek yogurt line or a new plant based milk product, the shelves are constantly being updated with emerging items. One of the newest products to line these shelves is a milk based product called kefir. Kefir is an acidic-alcoholic fermented milk product with a slightly acidic taste and creamy consistency, and its journey began in the Balkans in Eastern Europe and in the Caucasus. It is likely for kefir to be manufactured from cow, sheep, goat, or buffalo milk. Recent advancements have been made to produce kefir from soy milk to combat the scarcity, expense, or dietary restraints of animal milk in other countries.

The production of kefir can be developed from fermenting milk with commercial freeze-dried kefir starter cultures, traditional kefir grains, and the product that remains from the removal of kefir grains. Kefir grains are a yogurt starter that are white-yellow in color, gelatinous, variable in size, and composed of a microbial symbiotic mixture of lactic acid bacteria, yeast, and acetic acid bacteria that stick to a polysaccharide matrix. The main polysaccharide in kefir grains is kefiran, which is a heteropolysaccharide composed equally of glucose and galactose. Kefiran has been proven to improve the viscosity and viscoelastic properties of acid milk gels, and is able to form gels with viscoelastic properties at low temperatures. Due to this characteristic, kefiran can be used as an additive in fermented products. In comparison to other polysaccharides, Kefiran has been linked to numerous health related advantages including antitumor, antifungal, and antibacterial properties, epithelium protection, anti-inflammatory, healing, and antioxidant activity.

Although the consumption of this fermented milk has been related to a selection of health benefits related to its microflora, it is also beneficial due to the presence of metabolic products as organic acids. Also, kefir cultures have been shown to assimilate cholesterol in milk. The different process's in which kefir can lower cholesterol levels is through: (i) the binding and absorption into the cell before it can be absorbed into the body, (ii) producing free and deconjugating bile acids, (iii) inhibiting the enzyme HMG-CoA reductase. This is yet another reason why there is increased interest in the probiotic strains of kefir.

So, there you have it. A rundown of kefir, which to some (as myself) is definitely going to be useful the next time you are in the grocery store. Reading the nutrition information provided on labels is always good to know more about a product, but it is always useful to back the information up with research based evidence. Especially for newer products that are developing their mark in the aisles of grocery stores!



By
STEPHANIE JEAN



Shopping in Season: JULY

BY JENNA WALLACE



Summer is an amazing time for refreshing produce all season long. With temperatures (and humidity) creeping up here in Jacksonville, here's what you can grab next time you hit the grocery store. Berries, peaches, cucumbers, greens, and herbs are all in season for the month of July and present some great opportunities for cool and delicious summer meals and beverages. We all know how crucial water consumption is, especially with heavy sweat and time in the sun. But some get bored of water; switch it up with mint and cucumber infused water, or add a few berries for a healthy take on juice. With longer days, dinner cravings tend to long for lighter meals that require little time over the stove heating up the kitchen. For a light and easy summer dinner, toss fresh greens and herbs like cilantro or parsley with organic corn and fresh berries and your protein of choice. This makes a perfect summer evening meal you can enjoy anywhere!



Scientific Mystery of the Month: Carrot Skin



BY HANNAH GIBSON

Let's talk about *Daucus carota*. Also known as the common carrot, a typically orange root vegetable, that is apparently also available in purple, red, white, yellow, black, and can grow and mature quickly, within about ninety days. They also contain alpha-carotene, beta-carotene, Vitamin K, and Vitamin B6...aren't carrots great! I was disappointed to learn that the myth that carrots improve night vision was made up by the British in World War II to mislead their enemies about their night vision capabilities, but that will be a story for another day.

Carotenemia [noun]: a clinical condition characterized by the yellow pigmentation of the skin and increased beta-carotene in the blood. While harmless, the discoloration of the hands and feet can sometimes be mistaken for jaundice. Carotene is a lipochrome that adds a yellow color to the skin. The more foods consumed with this coloring property, the more prominent the coloring will become. It is most often seen in infants and young children being fed commercial baby foods, but is also found in my friend Susie, who just really likes carrots.

As I mentioned before, this condition is harmless but it can take a few months for the skin to return to its normal color. For parents who turned their baby orange, more green vegetables are often recommended, and tomatoes are to be avoided because they could lead to the development of lycopenemia, which leads to a reddish discoloration of the skin. Maybe yellow, red, and orange skin will become a weird fashion trend in the future or maybe just continue to be a way to trick your enemies into turning themselves orange, but for now we're going to sit back, keep calm and eat our greens!





The Lunchbox:

A NEW WAY TO INCORPORATE LEGUMES AT LUNCHTIME

Regular consumption of legumes is associated with a lower risk of chronic disease. Legumes are an integral part of the renowned Mediterranean diet, DASH diet, and provide B vitamins, iron, copper, manganese, phosphorus, and zinc while being a good source protein, fiber, and low glycemic index carbohydrate. Diets that regularly include legumes may help with weight control and decrease risk of hyperlipidemia, hypertension, and type 2 diabetes¹. Hummus and beans on salad are two simple and well-known legume options for lunch, but there are other options too. Below is a tasty and simple recipe that can quickly and easily be made and packed for lunch.

Chickpea Salad Wrap

Ingredients:

- 1 (15-ounce/425 grams) can chickpeas, drained and rinsed
- 2 stalks celery, finely chopped
- 3 green onions, thinly sliced
- 1/4 cup finely chopped dill pickle
- 1/4 cup finely chopped red bell pepper
- 3 mayonnaise or vegan mayonnaise
- 1 minced garlic clove
- 1 1/2 teaspoons yellow mustard
- 2 teaspoons finely chopped parsley
- Juice of 1 lemon
- Salt and pepper to taste
- Whole grain wrap
- 1 cup baby spinach

Directions:

1. Mash chickpeas with a fork until chickpeas are in small flakes.
2. Add to chickpeas: celery, green onion, bell peppers, pickles, mayonnaise/veganise, mustard, parsley, lemon juice, salt, pepper and garlic. Stir until combined.
3. Place spinach in a line across the middle of the wrap.
4. Spoon on about 1/3 of the chickpea salad mixture. Roll and enjoy!

BY KATIE EVERS





Exploring Superfoods

ASHWAGANDHA

BY JENNA WALLACE



Ashwa-wah?? Ashwagandha (pronounced “ash-wah-gahn-dah”) is a medicinal herb that has been used for centuries for its adaptogenic properties and its resilience in longevity and vitality. Ashwagandha is an adaptogen; this means that, when consumed regularly, it helps our body adapt and better handle internal and external stressors. In addition to these properties, this herb is also a strong antioxidant that performs similarly to ginseng. Its main antioxidant effect is increasing the amount of super oxide dismutase in the body. This enzyme is essential to reactions within the body that effectively convert oxidizing agents into less harmful compounds to avoid oxidation in the body which can sometimes lead to Parkinson’s Disease, Multiple Sclerosis, and depression.

The great news, is that this herb is available in a few different forms including powders, capsules and leaves. The powder can be utilized in smoothies, homemade lattes, and even stirred into a parfait! A serving is ½ tsp, so the taste is untraceable in your favorite breakfast food- the perfect way to take it daily. The leaves can also be used to create a tea. Some of the best brands are Gaia Herbs (capsules), Sun Potion (powder), and Mountain Rose Herbs (leaves).

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LACTOSE INTOLERANCE...

BY KATIE KUYKENDALL



To put it simply, a lactose intolerance occurs when an individual cannot break down lactose, a sugar found in milk. The body needs glucose for energy, and lactose is made up of glucose and another sugar known as galactose. When we ingest dairy products, our body produces an enzyme known as lactase, which is solely responsible for this reaction. After the lactose is broken down by the lactase in the small intestine, the sugars can then be absorbed and used for energy within the cell. But what if your body lacks the ability to produce enough of the enzyme necessary for breaking down lactose? Those who cannot produce lactase or cannot produce enough are known to have a lactose intolerance and it can be the culprit for many unpleasant and inconvenient symptoms such as bloating, diarrhea and gas when dairy is ingested. Never fear, lactase lackers! There is hope for everyone in 2017. On the market today, there is a plethora of dairy free, lactose free, and milk products available for your culinary fulfillment. If you are ever unsure of what to buy, just ask your local super market clerk to point you in the right direction or look up some reviews on some non-dairy blogs. There are even ways to get the satisfaction of creamy frozen dessert like ice cream without any dairy at all! Look below for a super simple recipe for dairy free “nice cream” to beat the heat this summer! This recipe is easy to add any variations to satisfy your sweet tooth.

Soft Serve Nice Cream!

Ingredients:

1 overripe frozen banana
Pinch of Salt

(Sweetener is optional. If you use overripe bananas, they should be sweet enough. If not, add a tablespoon of honey or maple syrup or even a couple of dates)

THAT'S IT!

Procedure:

Prior to making your delicious treat, peel, slice and freeze your overripe banana(s). When they are frozen solid, works best overnight, put them into a food processor and blend until you reach soft serve texture. You can serve it just how it is, or you can transfer it to an airtight container and freeze for a firmer, more scoopable consistency.

Fun Variations!

Peanut Butter Cup: add 2 tablespoons of cocoa powder prior to blending. Once smooth swirl in 2-3 tablespoons of peanut butter, or any favorite nut butter before blending

Chocolate Cherry: fold in a ½ cup of frozen cherries and a ½ cup of dark chocolate chunks after blending.

Chocolate Chocolate: prior to blending, add 2 tablespoons of cocoa powder and after blending, fold in 1 cup of chocolate chips.



ALMOND MILK



BY ALISA MAE FERNANDEZ

WHAT IS IT?

Almond milk is a plant based “milk”. It is one of the popular options for consumers along with coconut milk, soy milk, and rice milk. Almond milk can be easily found in stores nowadays. There are many brands of almond milk and consumers can purchase different flavors depending on their preferences. We can even make it at home. It is also versatile meaning it can be substituted in recipes that use milk.

WHY IS IT A GOOD SUBSTITUTE?

Almond milk is a suitable alternative to dairy milk, especially for those who are unable to consume milk, such as those who are lactose intolerant or those who are vegan. People who are lactose intolerant can choose this option because it is lactose free. It is lower in calories compared to dairy milk and contains no saturated fat. However it is lower in protein, calcium and vitamin D, unless it is fortified. It is important for consumers to make sure they are getting enough of these nutrients from other sources of food.

HOW IS IT MADE?

Almond milk is made by blending almonds and water. Manufacturers can fortify the milk with nutrients such as protein and calcium to boost nutrition. They also add other ingredients to help with shelf life and consistency. Making almond milk at home is quite common as well and as an experiment, I decided to try to make some. I researched so many different recipes for almond milk but the process of making it was very similar between all the recipes. First, the almonds need to soak in water for at least 12 hours. Then the almonds are drained and placed into a blender with a batch of fresh water. Many recipes call for 3 to 4 cups of water per 1 cup of almonds. Both the almonds and water are blended for at least 1 minute. The mixture is then strained using a cheese cloth or a nut milk bag. The milk can also be flavored to one’s liking; many recipes used dates as a sweetener. For my almond milk, I used vanilla extract. Overall, it turned out quite well and I would love to experiment with this more in the future.

Triple Berry Banana Smoothie

Ingredients:

1 cup frozen berries (I used strawberries, blueberries and raspberries) - 1 banana (can use fresh or frozen) - 1 cup almond milk

Directions:

1. Add all ingredients into the blender.
 2. Blend until smooth.
- Pour into a cup and enjoy!



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