Nutrition In Medicine NEWS

Nutrition Education for Healthcare Professionals

January 2016

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Special points of interest:

- Can SMART goals make you a better person?
- How common is vitamin D deficiency?
- What are the physiological functions of vitamin K?
- May Parkinson symptoms get worse with gluten exposure?
- ...and more....

For information on obtaining **continuing education** credits for NIM modules, go to:

nutritioninmedicine.org/CME/

A Look Forward, and a Look Back

The NIM Project has hit the ground running! The new calendar prompts us to reflect on some of the events and successes of last year.

Our online nutrition curriculum continues to be widely used at medical schools in the U.S. and around the world. More than a hundred schools continue to rely on our materials.

CME/CE credits are finally available! Ask us about these opportunities.

During the year we have strengthened our partnership with the Need for Nutrition Education/Innovation Programme (University of Cambridge, http://www.nnedpro.org.uk/) with the inaugural keynote presentation at the First Symposium of the NNEdPro Foundation, Wolfson College, Cambridge University in February, and a presentation at the later International Summit of NNEdPro. Let us know if you want to hear more about the initiative.

We also convened with ASN the New England/Mid-Atlantic Regional Nutrition Educators Meeting at Experimental Biology 2015.

We are very glad about the special nutrition issue for the Journal of Biomedical Education (hindawi.com/journals/jbe/2015/380917). Be sure to check out our reports on the 2012 survey of nutrition education in US medical schools and schools of osteopathic medicine. Thanks again to all of you survey responders!

Good reason to celebrate: Kelly (left), Evan Morris (center), and Margo Powell (right) at our party to recognize our recent graduates Emily Busey, MPH, and Rebecca Rudel, MPH. Congratulations!

Some of you may have heard about our ongoing budget challenges. We received so much encouragement and even contributions from personal funds. This means a lot to us!

We have since made good progress and have received funding for unrelated online projects that we are very excited about.

That said, we now have to rely for a greater part of our expenses on user payments. We will soon send a detailed list of the fees and hope for your continued support!

Nutrition Practice Tip: DASH Away from Hypertension

Lifestyle changes can be as effective as drug therapy in the treatment of hypertension. Patients with **hypertension** should be informed about the success of the **DASH diet** in lowering blood pressure. The DASH diet achieves a mean systolic blood pressure reduction of 11 mmHg, and a reduction of almost 8 mmHg in diastolic pressure. The DASH diet contains many more daily servings of fruits, vegetables, whole grains, and low-fat dairy products than most patients are used to eating. It takes considerable counseling support to help patients make such changes.
Source: Blumenthal JA, et al. Arch Intern Med 2010;170:126-35
Download more information on how to help your patients adopt a DASH diet:
www.nhlbi.nih.gov/health/public/heart/hbp/**dash**/new_**dash**.pdf
(source: DOI: 10.1542/peds.2012-3940)

Practical Nutrition: ED in teens with obesity

Do I have to worry about eating disorders in teens with obesity?

One particular group of adolescents may fly under the radar when it comes to detecting eating disorders – those with a history of overweight or obesity. By some reports about 1/3 of kids and teens with restrictive eating problems who are seen at a specialty clinic have a history of being overweight or obese. The problem can go undetected as the teen begins to lose weight and is commended for the changes. Meanwhile, he or she may be developing the characteristic fear of fat with an obsessive drive for thinness that characterizes anorexia nervosa. These adolescents may engage in disordered eating behaviors for a much longer time period before being evaluated due to the fact that BMI remains in what is generally considered a "healthful range," despite having lost a higher percentage of body weight when compared with ED patients who did not have an overweight or obese weight history. Because of the importance of early detection and intervention, practitioners should make sure that patients who are losing weight are screened for the unhealthy behavior patterns and psychological features that define eating disorders.

Sources: Pediatrics 2013; 132:e1026-30. J Adolesc Health 2015;56:19-24.

Children and adolescents whose weight falls within the normal, overweight, or obese range can have eating disorders, and the physical complications are often misdiagnosed.

TIP:
All breastfed infants should receive 400 IU of oral Vitamin D daily

Don't forget to consider rickets

Experts largely agree on the importance of vitamin D for a healthy pregnancy. Antenatal care needs to include vitamin D for the assessment of maternal nutritional status, ensuring they get 600 IU/d. Both breastfed and bottle-fed infants should get 400 IU D as a supplement or with the formula for at least a year, possibly longer.
The risk of rickets is not a thing of the past, particularly in mothers and children with darker skin, or irregular D supplementation. In children with signs suggesting rickets (e.g. slow growth and short stature, bone pain, soft skull) alkaline phosphatase may be the best initial test.
Source: Schoenmakers I et al. Prevention and consequences of vitamin D deficiency in pregnant and lactating women and children: A symposium to prioritise vitamin D on the global agenda. J Steroid Biochem Mol Biol 2015 Nov 10. pii: S0960-0760(15)

New Year, New Goals

Your patients may have recently set New Years Resolutions and goals to achieve better health in the coming year. While these aims and desires should be commended, it is important to work with patients to set goals they can achieve. An acronym to remember for effective goal-setting is S.M.A.R.T., which stands for goals that are **S**pecific, **M**easurable, **A**ttainable, **R**ealistic, and **T**imely. Take the time to help your patients create SMART goals when they discuss the desire to make a behavior change. This can help them achieve success.

Make sure to give your patients the autonomy to set their own goals, and then help them to narrow it down if necessary. For instance, if your patient wants to eat more fruit, work with them to make a SMART goal like "I will eat a banana or apple with breakfast on two weekdays and one weekend morning." Remember, goals can always be evolving, but SMART goals are an effective place to start.

Setting specific target dates to achieve SMART goals and tracking small measurements of success can lead to a large weight loss over time.

Can extra zinc help him to live longer?

High-dose zinc reduces mortality of the elderly

Zinc supplements are not very popular, but maybe they should be. The long-term AREDS study of more than 3600 elderly people with mild to severe macular degeneration compared the effect of zinc (80 mg/day plus 2 mg copper) to placebo in a double-blinded design. About six years later, 37% more of the zinc users than non-users were still alive. The recent report of survival 10 years later with now almost twice as many deaths again found more survivors in the zinc group.

The survival benefit was related both to lower rates of cardiovascular deaths (at the ten-year time point) and to fewer fatal infections of the respiratory tract.

This is one of the few instances when just making good food choices is not enough because there are not many naturally zinc-rich foods. Half a dozen oysters contain about 33 mg zinc. Meats are also relatively rich in zinc, but it takes about half a pound to provide 30 mg. So for this one nutrient and only in older people, use of a daily supplement appears to actually improve survival.

Sources: Clemons TE, Kurinij N, Sperduto RD; AREDS Research Group. Associations of mortality with ocular disorders and an intervention of high-dose antioxidants and zinc in the Age-Related Eye Disease Study: AREDS Report No. 13. Arch Ophthalmol 2004;122:716-26
Chew EY, Clemons TE, Agrón E, Sperduto RD, Sangiovanni JP, Kurinij N, Davis MD; Age-Related Eye Disease Study Research Group. Long-term effects of vitamins C and E, β-carotene, and zinc on age -related macular degeneration: AREDS report no. 35. Ophthalmology 2013;120:1604-11

Nutrient of the Month: Vitamin D

Vitamin D (cholecalciferol, D3) is very important but is not really an essential nutrient. The reason is that we can produce it readily in skin as long as we get enough UV light (290-315 nm). 15-30 minutes whole-body exposure during a bright summer day at the beach generates enough for a month. Fatty cold-water fish (e.g. salmon, herring, sardines) provide only 200-800 IU in a small serving (3.5 oz/100 g). This amount is barely enough to meet the minimum daily intake of 600-800 IU for most people.

Vitamin D deficiency is the most common cause of rickets in young children, particularly those with darker skin living at high latitudes.

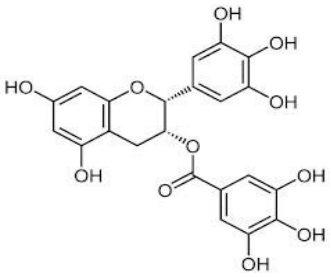
Poor vitamin status increases the risk of many chronic diseases, including osteoporosis, breast cancer and multiple sclerosis.

People with reduced ability to generate the active metabolite 1,25 dihydroxy vitamin D are at greater risk of deficiency.

Source: Kohlmeier M. Nutrient Metabolism: Structures, Functions, and Genes. Academic Press, San Diego, 2015 ISBN 0123877849

The vast majority of North Americans and Europeans do not get enough vitamin D

Inside Story: Vitamin K in Kale



Phylloquinone is the main form of vitamin K in kale, Brussels and other dark-green leaves and vegetables.

Kale (Brassica oleracea var. acephala) is a darker member of the cruciferous vegetable family, dark-green that is. Its slightly bitter and robust taste provides an attractive contrast for starches or meats in a meal. Half a cup of chopped kale contains over 500 µg vitamin K1 (phylloquinone) as well as large amounts of dietary fiber, potassium, magnesium and many other beneficial plant compounds. Nutritionally, frozen and fresh kale are equally good.

Vitamin K acts not only in blood coagulation (factors II, VII, IX and X, protein C and protein S), but is equally important for the activation (through gamma-carboxylation of Glu residues) of proteins that protect against osteoporosis (osteocalcin, Matrix Gla protein) and calcification of arteries and heart valves (Matrix Gla protein and Gas6). Further important functions relating to brain health and cancer are likely to exist but need more research for confirmation

Source: Shearer MJ, Newman P. Recent trends in the metabolism and cell biology of vitamin K with special reference to vitamin K cycling and MK-4 synthesis. J Lipid Res. 2014 Mar;55:345-62

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Nutritioninmedicine.org

ABOUT US

We are a team of nationally acclaimed educators and researchers who develop and maintain the NIM online curriculum for medical students, physicians and other healthcare professionals.

The NIM curriculum aims to teach evidence-based elements of nutrition physiology and clinical practice. Help us make it better!

Whole-grain bread is a good foundation for a meal or snack with a low glycemic index. But the gluten in it is not for everyone. More than 3 million Americans should avoid whole-grain bread due to their celiac disease. Unfortunately, most affected people do not know about this risk because they have never been tested.

This newsletter is posted at nutritioninmedicine.org/m/newsletters/

Your Patients May Be Asking...

Q: Should I be avoiding gluten?

A: Not until you have been diagnosed with celiac disease (CD) by a physician. About one out of 100 Americans has celiac disease, but most do not know it.

It is easy to miss the diagnosis without a blood test because more than half of the people with CD do not have anemia or GI symptoms, but they are still at risk for systemic consequences including migraines, malignancies of the small intestines, infertility, and in children failure to thrive.

That even elderly people without any of the classical symptoms may have severe involvement of the central nervous system was seen in a 75 year-old patient with Parkinson's disease who improved dramatically with a gluten-free diet.

New research demonstrated an imbalance in the brain between excitatory and inhibitory synaptic excitability that appears to be responsive to long-term gluten avoidance.

On the other hand, most people who avoid gluten have no CD and will probably not benefit.

Sources: Bella R. et al. Effect of a gluten-free diet on cortical excitability in adults with celiac disease. PLOSOne 2015;10(6):e0129218

Di Lazzaro V. et al. Dramatic improvement of parkinsonian symptoms after gluten-free diet introduction in a patient with silent celiac disease. J Neurol. 2014;261:443-5