July 2018

Thank you for subscribing to this newsletter from the Personalized Lifestyle Medicine Institute. Enjoy and share this information, which is for educational purposes only and is not intended to be a substitute for professional medical advice, diagnosis, or treatment. Always consult with a qualified healthcare professional when you are in need of advice regarding a medical condition.

In this issue: 2018 Thought Leaders Consortium; Teenage Mood Better With Healthy Eating Pattern; Research Update on Vegan Diet and Microbiome; SNiPpets: Bone Mineralization and MK-7; Gut Microbe Bioactivates Olive Antioxidant

**SIXTH ANNUAL THOUGHT LEADERS CONSORTIUM**

Why is Age the Most Significant Risk Factor for Chronic Disease?

Think about the many ways that age and illness are intimately linked. But do they have to be? Our understanding of the science of aging is evolving as a result of new discoveries, enhanced technology, and shattered assumptions. We now know that chronological age (birthdays) is not an equal measure of biological age (function). At the 2018 Thought Leaders Consortium, we will be exploring how biological age is evaluated and applied in patient care. What’s new to discuss in the field of aging? Consider the recent discoveries related to clonal hematopoiesis of indeterminate potential (CHIP), which we’ll describe here

How is Personalized Lifestyle Medicine Challenging Us to Think About Age in New Ways?

as debris that accumulates in immune cells. Consider also the phenomenon of autophagy, a natural process that clears and eliminates cellular debris. Autophagy research was awarded the Nobel Prize in Physiology or Medicine in 2016, so this field has received a remarkable amount of attention in the last two years. Are your patients asking about the safety and efficacy of fasting diets, which have been in the news recently? What about genomic testing and personal data? We’ve assembled an exceptional faculty that will expand your knowledge about all of these topics and more.

To highlight all of the important details about this year's event, we have put together a robust (and growing) portfolio of pre-conference materials. Visit our Speaker Gallery to read unique write-ups about each of our presenters, subscribe to our Conference
Preview Vimeo Channel to follow our growing collection of video blogs and resources (including--coming soon!--) a mini-webinar featuring PLMI President Dr. Jeffrey Bland, and review our 2018 TLC Overview page if you need your logistical questions answered. And when you're ready to register? Here's a direct LINK to our registration site. The dates are October 12-13, 2018 at the Westin La Paloma Resort & Spa in Tucson, Arizona. We hope to see you there!

Teenage Mood Better with Healthy Eating Pattern

Adolescence is a period of metabolic challenge—trying to maintain normal function while undergoing permanent transformation—and dietary choices make a difference in how hard puberty hits. Among Australian teenagers consuming more in the way of fast food, refined foods, red meat, and sweets, this dietary pattern was directly associated with having more mental health problems and symptoms of depression by the age of 17, as well as a higher body mass index (reflecting greater propensity towards obesity) and higher blood levels of inflammation markers. However, these mental and physical measures of well-being were considerably better among teens whose diets were characterized by high consumption of fruits, vegetables, fish, and whole grains. Research is finding more links between inflammation and mood, and diet is increasingly seen as an important connection between the two.

Research Update on Vegan Diet and Microbiome

A vegan eating pattern free from animal and insect products, whether followed for health or spiritually based reasons, has been shown to be a healthful choice for many. It is often rich in nutrients most lacking in the western diet, such as fiber, potassium, magnesium, antioxidants, and phytonutrients, and is associated with better cardiovascular and metabolic well-being as well as reduced risk for obesity and some cancers. A 2018 study found that in overweight adults, an appropriately supplemented and fat-controlled vegan diet for just 16 weeks led to significant drops in body weight and fat as well as improvements in sugar metabolism. This restricted eating pattern may not be appropriate for certain individuals, though, and should be approached strategically, as it also carries risk for deficiencies in essential nutrients.

In ideal form, a vegan diet provides many fresh fruits and vegetables, a wide variety of nuts, seeds, and grains, and personalized fortification and/or supplementation with nutrients that are potentially lacking, such as omega-3 fatty acids, vitamins B12 and D, zinc, iron, and calcium; additionally, a 2018 Norwegian study found that vegans, pregnant women, and women who may become pregnant are at particular risk for inadequate intake of iodine, a trace mineral that is critical for normal energy metabolism and fetal development. Without supplementation, a vegan diet may furnish too much in the way of processed foods, omega-6 fats, and simple carbohydrates and yet be deficient in nutrients just mentioned. Women who are or may become pregnant and individuals with anemia, diabetes, bone disorders, digestive conditions, or particular food sensitivities especially need to ensure the adequacy and appropriateness of a vegan diet.

A 2017 study comparing the gut microbiomes of those following vegan, ovo-lacto vegetarian, and omnivorous dietary patterns found that vegans showed the highest ratio between members of the Bacteroidetes and Firmicutes microbial phylum members; this ratio is considered to reflect long-term dietary quality. Vegans also showed high levels of bacteria which produce specialized fatty acids that support the health of hard-working cells lining the digestive tract. In addition, when biomarkers of inflammation...
were assessed, vegan eaters showed the lowest propensity for inflammation, while omnivores displayed the highest.

SNiPPets

How significant to health are particular single nucleotide polymorphisms, also known as SNPs? SNiPPets is an ongoing exploration of this topic. This column is produced by Jeffrey Bland, PhD and the Personalized Lifestyle Medicine Institute.

Without a Double Helping of This SNP, Bones May Want a Double Helping of MK-7

The GGCX gene codes for an enzyme that activates the vitamin K-dependent proteins needed for normal bone mineral deposition (called osteocalcin) and blood clotting. The most common genotype for this gene is GG, whereas AA and GA are variants resulting from SNP rs699664. Carriers of the common GG and variant GA genotypes showed significant inverse correlation between blood levels of MK-7 and the ratio of inadequately activated osteocalcin to intact osteocalcin, whereas carriers of the variant AA genotype showed no such relation. This indicates that, in GG and GA carriers, proper bone mineralization depends more strongly on receiving adequate levels of MK-7 from dietary or supplemental sources.

Gut Microbe Bioactivates Olive Antioxidant

Fans of health and good food appreciate olives and probiotics, but combining them may be better yet. Olives and olive oil contain a variety of compounds like oleuropein that possess antioxidant activity, but perhaps the strongest among them is hydroxytyrosol, a polyphenolic substance that is also associated with good olive flavor. Lactobacillus plantarum is a lactic acid bacterium that is commonly found in fermented milk products such as yogurt, goat cheese, and sour cream. When a particular strain of Lactobacillus plantarum is ingested along with oleuropein, it converts oleuropein into its more beneficial relative hydroxytyrosol. Other research suggests that the enzyme hemicellulase may also achieve this conversion (though hemicellulase is not a major digestive enzyme in humans, some enzyme supplements provide it). It looks as though the Mediterranean appetizer of goat cheese and olive tapenade packs a greater health punch than previously realized—but don’t forget the fresh grapes, in any case.
consumer audiences.

Our online Education Portal features video presentations from past PLMI events that are free to view online. User registration is required. **Access the Education Portal>>**

**Newsletter Team**
- Jeffrey Bland, PhD - Publisher
- Cheryl Kos, ND - Content Developer and Writer
- Trish Eury - Content Editor
- Annette Giarde - Subscription Manager