National Association of Diabetes Educators of Pakistan

June 2019

NEWSLETTER

Monthly Diabetes Educator

A forum for diabetes educators, dietitians and other health care professionals with interest in diabetes.

Contents

Use everyday habits to keep your memory in good shape

Health Beat | Harvard Med School | 13th June 2019

Your daily bits and lifestyle — what you eat and drink, whether you exercise, how stressed you are, and more — affect your mental health every bit as much as your physical health. A growing body of research indicates that regular exercise and a healthful diet can help protect your memory from aging-related decline.

Exercise
Physical fitness and mental fitness go together. People who exercise regularly tend to stay mentally sharp into their 70s, 80s, and beyond. Although the precise "dose" of exercise isn't known, research suggests that the exercise should be moderate to vigorous and regular. Examples of moderate exercise include brisk walking, stationary bicycling, water aerobics, and competitive table tennis. Vigorous activities include jogging, high-impact aerobic dancing, square dancing, and tennis.

Exercise helps memory in several ways. It reduces the risk of developing several potentially memory-robbing conditions like high blood pressure, diabetes, and stroke. Exercise is good for the lungs, and people who have good lung function send more oxygen to their brains.There is some evidence that exercise helps build new connections between brain cells and improves communication between them. Finally, exercise has been linked to increased production of neurotrophins, substances that nourish brain cells and help protect them against damage from stroke and other injuries.

Here are some ways to build physical activity into your daily routine:

- Walk instead of driving when possible.
- Set aside time each day for exercise. For extra motivation, ask your spouse or a friend to join you.
- Use the stairs instead of the elevator.
- Plant a garden and tend it.
- Take an exercise class or join a health club.
- Swim regularly, if you have access to a pool or beach.
- Learn a sport that requires modest physical exertion, such as tennis.

Go Mediterranean
Mediterranean-type diets highlight whole grains, fruits and vegetables, and healthy fats from fish, nuts, and healthy oils. This eating style helps promote heart health and may also lessen the risk of memory and thinking problems later in life. In a study that followed more than 2,000 people over four years, those who most closely followed a Mediterranean-type diet had a lower risk of developing Alzheimer's disease. A later study suggested that following a Mediterranean-type diet could slow the conversion of mild cognitive impairment into full-blown dementia.

The types of fat that predominate in the diet also seem to affect memory. As part of the national

Health Initiative, 482 women ages 60 and older were observed for three years. They reported on their diets, and researchers tested their memory and thinking skills at the beginning of the study and at the end. Those who ate more unsaturated fat (which is abundant in vegetable oils and fatty fish) and less saturated fat (from red meat and full-fat dairy foods) had significantly less decline in memory than those who ate relatively little unsaturated fat.

Eating several servings of fruits and vegetables can also protect memory. Foods from plants are chock full of vitamins, minerals, and other nutrients that may protect against age-related deterioration throughout the body.

This story has not been edited by NADEP staff; source: Helio.

Supplements or not???

By Meghan Jardine | Associate Director of Diabetes Nutrition Education, The Physicians Committee for Responsible Medicine

Supplements should be used to treat a deficiency, and we should try to get most of our nutrients from food. You don't eat calcium. You don't eat magnesium. You eat dark green leafy vegetables that contain calcium and magnesium, working together in the right proportions to promote bone health. Additionally, studies on calcium supplementation are mixed. Some studies show that calcium supplementation increases risk for fracture and cardiovascular disease, whereas other studies suggest it decreases CV risk. It can all be very confusing for patients. The take home is that the clinician or nutritionist must assess the patient in front of them, individualize their care and not make blanket recommendations. At the Physicians Committee for Responsible Medicine, we do not recommend dairy. We found that people can get all of the nutrition they need from plant-based foods. Foods that are high in calcium include tofu, calcium-fortified orange juice (for those without diabetes), commercial soy yogurt, collard greens, mustard greens, kale. Beans and legumes are high in amino acids that promote bone mineral density. However, supplementation of calcium and vitamin D may be warranted if a patient is not getting the recommended amounts of calcium and vitamin D in the diet. It is also important to consider what medications a patient is taking and whether any of those medications are known for reducing bone mass. Other important components are exercise, smoking cessation, sodium reduction and stress management.

This story has not been edited by NADEP staff; source: Helio.

Exercise does help prevent depression, research shows. And not exercising can make things worse…

By Natalie Parletta | Cosmos reports

An international study of the genetics of 300,000 people has confirmed that physical activity can help prevent depression, and provided some solid evidence that it works the other way. A lack of exercise can cause depression.

Previous studies have found a link between lack of exercise and depression, but none has shown that a lack of exercise can actually cause depression. It was thought equally possible that being depressed simply led people to exercise less.

However, this new work by a team at Massachusetts General Hospital, US, shows a causal link between exercising and avoiding depression, and also shows that the opposite is not true – being depressed does not cause people to exercise less.

The findings are published in a report in the journal JAMA Psychiatry.

"We know depression is a leading cause of disability around the world but we know much less about how to prevent this difficult condition," says lead author Karmel Choi, from the MGH Centre for Genomic Medicine.

"We wanted to harness the advances of large-scale genomics studies to validate a promising target for depression."

The researchers focused on physical activity because "it is something people can change" and used a Mendelian randomisation design, which can treat genetic variation between people as a kind of natural experiment.

"Although Mendelian randomisation is not without its own limitations, it can be used to answer familiar questions using a very different approach from what has been done before," Choi says.

"Put simply," adds Adam Mourad Chekroud in a related editorial, "if exercise causally reduces the incidence of depression, then people who carry gene variants that increase exercise should proportionally be less likely to get depressed."

The strengths of the design help to rule out confounding education and income. It can also clarify whether physical activity prevents risk of depression, and whether not exercising increases risk, Chekroud explains.

The researchers used genetic physical activity and depression data from the UK Biobank and a global Psychiatric Research Consortium. Physical activity was measured using participants' self-reported activity levels and accelerometers – motion-detecting sensors worn to track activity levels.

Results suggest that activity measured using the accelerometers did protect against risk of depression, but self-reported activity did not.

The authors propose this could result from bias and inaccuracies in self-reported physical activity. Objective readings from the accelerometers capture activities like climbing stairs, walking to the shops or housework, which people might not think of as physical activity.

With accelerometer data, the researchers found that replacing sedentary behaviour with just 15 minutes of vigorous physical activity, like running, or an hour of moderate activity, like fast walking, reduces depression risk by 26%.

That's not just mild depression, but the more severe major depressive disorder.

"We see this study as fitting into a larger puzzle that is looking highly promising for the role of physical activity in mental health," Choi says.

The study doesn't explain how physical activity might mitigate depression, but Choi highlights several possibilities.

"From a biological perspective," she says, "physical activity has been linked to the release of 'feel-good' hormones in the brain that can lead to a positive mood."

Physical activity can also reduce inflammation and improve heart health, both of which have been linked to depression, she adds.

From another perspective, "behavioural activation" is a helpful strategy for combating depression, she says. "Keeping

active in the world, especially doing enjoyable or meaningful activities, can combat isolation and improve mood."

Depression is a debilitating condition affecting more than 300 million people around the world, and the primary cause of disability. But it's not typically linked to physical health and wellbeing.

"We've talked about being fat and diabetes," says Professor Ian Hickie, a member of the consortium that contributed data to the project, "but the exercise effect is not just about weight loss – it's about feeling well and well-being".

This story has not been edited by NADEP staff; source: Cosmos.

Trace metal concentrations influence glucose regulation in pregnancy

Endocrine Today | May 24, 2019

Zheng Y, et al. J Clin Endocrinol Metab. 2019

Pregnant women with higher plasma concentrations of copper measured during the first trimester were more likely to have elevated glucose levels in the second trimester, increasing the risk for gestational diabetes, whereas higher concentrations of the trace metal molybdenum were associated with reduced glucose levels, according to findings published in The Journal of Clinical Endocrinology & Metabolism.

"Essential trace metal(loids) may be important to consider with respect to glucose intolerance in pregnancy, given their involvement in glucose homeostasis, and the potential to modify their levels through dietary management," Yinnan Zheng, MS, a doctoral student in the department of environmental health at the Harvard T.H. Chan School of Public Health, and colleagues wrote in the study background. "Accumulating data from animal and metabolic studies demonstrated that a number of essential trace metal(loids), including zinc, selenium, chromium, iron, manganese, copper and molybdenum can impact glucose metabolism and insulin sensitivity with downstream effects on hyperglycemia and [gestational diabetes]."

Zheng and colleagues analyzed data from 1,857 healthy, normal-weight women from 12 U.S. clinical sites participating in the National Institute of Child Health and Human Development (NICHD) Fetal Growth Studies Singleton Cohort between July 2009 and January 2013. Researchers measured concentrations of zinc, selenium, copper and molybdenum in blood plasma samples collected during the first trimester of pregnancy (median, 12 weeks' gestation). Primary outcome was blood glucose levels during the second trimester size, manufacturing of different parts of the footwear and incorporating the required modifications, were throughly assessed.

Among 264 women with an abnormal gestational load test, 58 women were diagnosed with gestational diabetes after an oral glucose tolerance test. An additional 76 women with a normal gestational load test also underwent an OGTT, with nine women diagnosed with gestational diabetes. Researchers found that levels of plasma zinc (median, 806 µg/L) and plasma selenium (median, 123 µg/L) were comparable to measurements among nonpregnant women measured in the National Health and Nutrition Examination Survey, whereas levels of copper (median, 1,874 µg/L) were higher vs. NHANES-measured levels.

In linear regression analyses, researchers found that higher concentrations of copper measured during the first trimester were associated with higher glucose levels measured during the second trimester, with each 50% increase in copper concentrations related to a 4.9 mg/dL higher glucose level measured via the gestational load test (95% CI, 2.2-7.5). Results persisted after adjustment for maternal sociodemographic characteristics and reproductive history.

In contrast, a 50% increase in molybdenum concentrations was associated with a 1.2 mg/dL lower mean glucose level measured via gestational load test (95% CI, –2.3 to –0.1).

For every 50% increase in copper concentration, women were 1.53 times more likely to have an abnormal gestational load test (95% CI, 1.19-1.97). For every 50% increase in molybdenum, women were 14% less likely to have an abnormal gestational load test (RR = 0.86; 95% CI, 0.78-0.96).

"If replicated and well quantified, these findings could provide early markers of potentially modifiable environmental exposures that are related to glucose dysregulation in pregnancy," the researchers wrote. – by Regina Schaffer

This story has not been edited by NADEP staff; source: Endocrine Today.

Diabetic amputations a 'shameful metric' of inadequate care

Diabetes Voice | May 3rd 2019

Amputations typically start with poorly controlled diabetes, a disease characterized by excess sugar in the blood. Untreated, it can lead to serious complications such as kidney failure and blindness.

People with diabetes often have reduced sensation in their feet, as well as poor circulation. As many as one-third of people with the most common form – Type 2 – develop foot ulcers or a break in the skin that can become infected.

Amputations occur after those infections rage out of control and enter the bloodstream or seep deeper into the tissue. People with diabetes often have a condition that makes it harder for blood to circulate and wounds to heal.

The circumstances that give rise to amputations are complex and often intertwined: Patients may avoid doctors because their family and friends do, or clinics are too far away. Some may delay medical visits because they don't trust doctors or have limited insurance. Even when they seek treatment, some find it difficult to take medication as directed, adhere to dietary restrictions or stay off an infected foot.

Californians with diabetes who have a regular place to go for health care other than the emergency room are less likely to get amputations, according to an analysis conducted for Kaiser Health News by the UCLA Center for Health Policy Research. If they have a plan to control their diabetes, they also have less chance of amputation.

The analysis shows that many amputations could be avoided with better access to care and better disease management, said Ninez Ponce, director of the center. "It's the most shameful metric we have on quality of care," Ponce said. "It is a health equity issue. We are a very rich state. We shouldn't be seeing these diabetic amputations."

An amputation often leads to a cascade of setbacks: more infections, more amputations, decreased mobility, social isolation. Research shows as many as three-quarters of people with diabetes who have had lower-limb amputations die within five years.

The health system bears surprisingly large costs for what remains a relatively uncommon problem. A single lower-limb amputation can cost more than $100,000. By far, government programs – Medicaid and Medicare – pay for the most amputations.

Experts say the best bet is to intervene well before they become necessary. People with diabetes are "very much in need of the simplest, basic, cost-effective, easy-to-implement treatments," said Dr. Philip Goodney, director of the Center for the Evaluation of Surgical Care at Dartmouth.

Along with basic measures to control diabetes, regular foot exams are key. The Centers for Disease Control and Prevention

Patient Corner

recommended podiatric care, a yearly foot exam to check for loss of sensation and blood flow. Under federal rules governing Medicaid, the government program for low-income Americans, such care is optional and not covered by every state.

California includes it as an optional benefit, limiting access to such care. An analysis by UCLA researchers estimated that the use of preventive podiatric services saved the Medi-Cal system – California's version of Medicaid – up to $97 million in 2014, based on avoided hospital admissions and amputations, and that savings could be much greater if more patients had access.

This story has not been edited by NADEP staff; source: Diabetes Voice.

Story of Zain with type1 diabetes (Part 6)

By Ms. Erum Ghafoor, Consultant Diabetes Educator

Previous Summary: Zain is 12 years old young man who is a football player. He was feeling so weird and sick for many days which is affecting his overall life. One day he collapsed, and the doctor has diagnosed him with type1 diabetes. He was in shocked, and now it's time that he should learn how to take insulin injection by himself and other aspect of managing diabetes.

Part 6: My diabetes educator has explained me again all the procedure of checking blood glucose level by myself. I thought, if she can do it than why can't me. My parents said do check your blood glucose level in front of her so they can be sure that I would not making any mistake. So as per her explanation, I washed my hands with soap and dried them thoroughly. I have placed a new test strip in glucometer. When the glucometer has shown the sign of blood drop than I bring out my pricker. I was about to poke my finger tip to draw blood drop for checking of blood glucose level.

At that moment, my diabetes educator has just stopped me and explained that if I prick in middle of my finger tip than It may cause lot of pain because of pain receptors at that point. So, it is wise and painless to prick at the side of fingers. I have listened her carefully and pricked at the side of my forefinger with fast heart beats. I just feel a sting of mosquito and a blood drop came out. I applied it on strip and a got results within five seconds. It was amazing! I have realized that pain was just in my imagination. I and my family were so relieved, no more worries for low blood sugar or high blood sugars at school or any place where I will not be with my family.

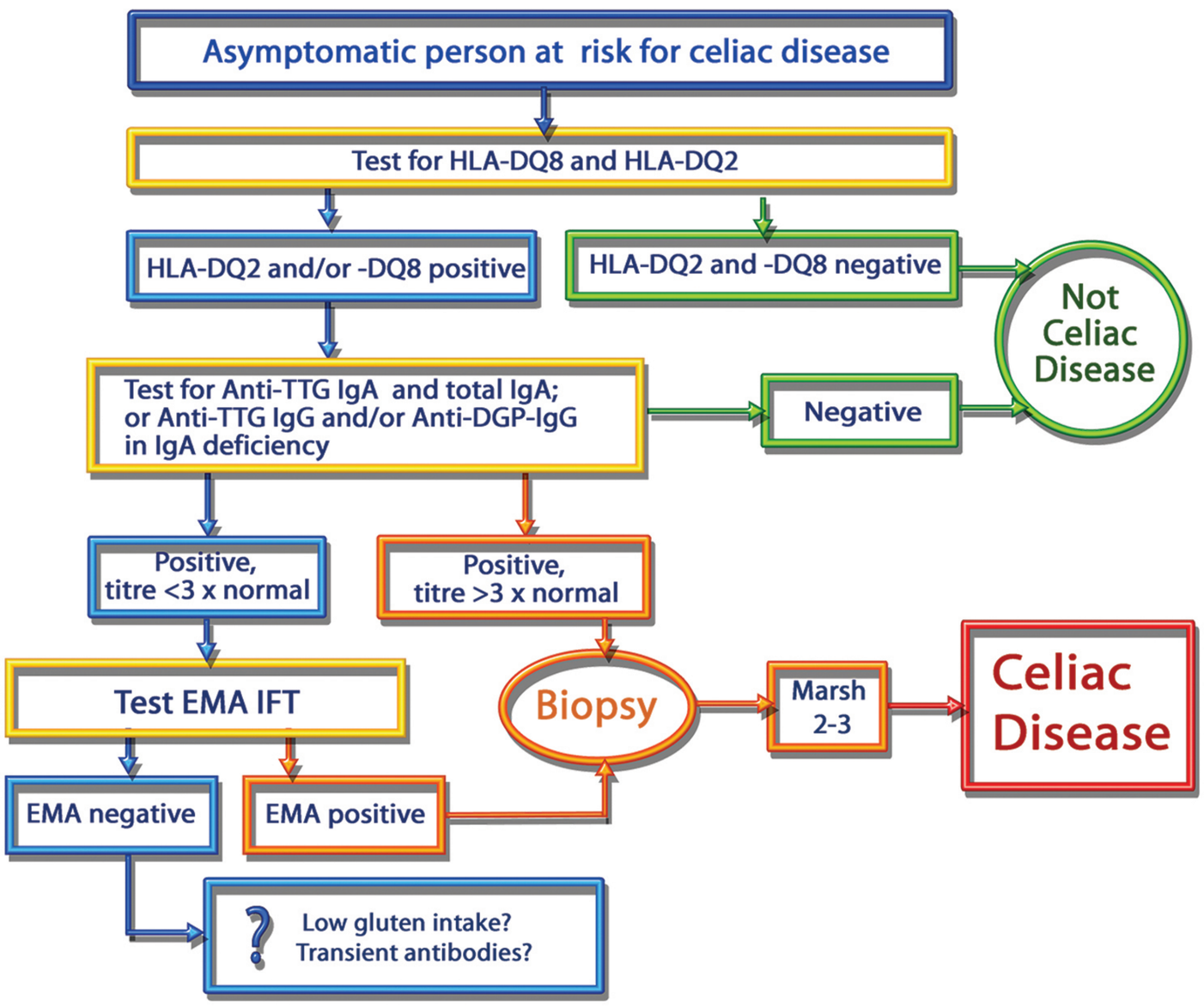
After that exercise, my diabetes educator has explained that check blood glucose is not enough, you must learn what is meant by those numbers and what numbers should be taken care of immediately.

Continue in July issue……

Moral of the part: It is essential to check blood glucose levels with knowledge to understand the meaning and required acting according to them to live a healthy life with diabetes

Information Corner

Identification of asymptomatic person at risk for celiac disease



In the Next Issue

- Latest updates of NADEP activities
- Overview of Diabetes and Ramadan Activities
- On-going Diabetes and Hajj Activities
- Risk factors of childhood obesity
- And more...

Plot No. 1-2, II-B, Block 2 Nazimabad, Karachi, Sindh, Pakistan
www.nadep.org.pk
www.bideonline.com
meenafarooqi@bide.edu.pk
info@bide.edu.pk
+92 21 36688897
+92 21 36608565