

Genetics and exercise: tailoring diabetes prevention strategies for high-risk individuals

STAR HEALTH REPORT

Type 2 diabetes affects over 500 million adults worldwide, posing significant health and financial challenges. It results from insufficient insulin production, with symptoms like increased thirst, frequent urination, and fatigue. Risk factors include being overweight, having abnormal cholesterol levels, and being over 45. While genetics play a role, lifestyle choices significantly influence susceptibility.

A recent study in the British Journal of Sports Medicine examined the link between genetics, exercise, and type 2 diabetes. Researchers studied



500,000 people aged 40 to 69 over 6.8 years. Participants wore accelerometers to measure physical activity and sleep patterns. Findings revealed that higher physical activity significantly reduced diabetes risk, with a 68% to 80% reduction in risk.

All participant groups benefited from exercise, which was based on genetic risk. Those with a strong genetic predisposition also saw risk reduction, particularly with moderate to intense exercise. However, low-intensity exercise required longer durations for substantial benefits.

This study underscores the importance of regular exercise in reducing type 2 diabetes risk, particularly for individuals with a family history of the condition. Prioritising physical activity alongside a healthy lifestyle can help combat this global health concern.



Embracing wellness: a journey through diet and exercise in aging

STAR HEALTH DESK

Imagine the golden years stretching ahead, filled with laughter, adventures, and cherished memories. To ensure that this chapter of life is as vibrant as the rest, you must start with the foundation of good health: a balanced diet. It's like tending to the soil before planting a garden.

First, consider calcium. Strong bones are your fortress against the ravages of time, protecting you from osteoporosis and fractures. Now, your body craves more calcium than ever. Make it a goal to incorporate three servings of calcium-rich foods and beverages into your daily routine. Dark, leafy greens, canned fish, fortified cereal, milk, and fortified juices or plant-based alternatives should become your trusted allies.

Fibre is the next building block of vitality. It keeps you regular, combats constipation, and acts as a guardian against heart disease, type 2 diabetes, colon cancer, and high cholesterol. Fill your plate with fruits, vegetables, whole-grain breads, cereals, beans, and peas to reach your daily fibre goal.

Protein, the architect of muscle preservation, is vital to maintaining

strength. Women should aim for about 46 grams daily, while men should target 56 grams. Sources like low-fat dairy, lean meats, fish, poultry, cooked dried beans, and yoghurt will fuel your muscles and keep you agile.

Too much salt can lead to high blood pressure and heart disease. Transform your cooking style by replacing salt with herbs and spices for flavour.

The fats you choose should be healthy and reliable. Say no to saturated and trans fats and instead embrace polyunsaturated and monounsaturated fats found in nuts, seeds, fish, olive oil, etc. Keep the balance by increasing potassium-rich foods, such as fruits, vegetables, and beans, while decreasing your salt intake to maintain healthy blood pressure levels.

Hydration is essential. Make a conscious effort to drink enough water, energising your body and mind. Opt for fat-free milk and 100% juice, and steer clear of beverages laden with added sugar or salt.

With your diet fortified, venture into the realm of fitness. Before you dive in, consult your doctor. They are your compass, guiding you towards

exercises that align with your unique needs and abilities. Remember, safety always comes first.

Aerobic exercise should become your daily ritual, like a sunrise stroll along the beach. Aim for 2.5 hours of brisk walking, dancing, or even a friendly game of tennis every week to breathe life into your heart, lungs, and energy levels. Stretching and yoga will be your daily rituals, ensuring your body remains supple and agile.

Balance exercises, like standing on one foot or practicing tai chi, will keep you steady on your path, preventing falls that could disrupt your journey. Strength training is your armour against muscle loss and fragile bones. Twice a week, engage in activities like weightlifting, resistance bands, or bodyweight exercises to fortify your body and fend off injury. As your joints gracefully age, opt for gentle exercises like swimming, walking, or biking, which protect your hips and knees.

Remember, even the longest journey begins with a single step. Start by rising from your chair, taking a short walk, and marching in place. Progress may be slow, but every step brings you closer to a life of health, vitality, and joy.

HAVE A NICE DAY

How much is too much? - Part II

DR RUBAUL MURSHED

For generations, society has faced the question of how much money is enough to bring joy. What does the world's most extensive happiness study say about money? It turns out that money does not make people happy, nor does their position. In that 85-year Harvard study, contrary to what we might think, it is neither career achievement nor prestigious jobs with more money that make people happier in their lives. In their long study, the most consistent finding they have learned is that positive relationships and social connections keep us happier and healthier and help us live comfortably.

That is why smart people know there is more to life than being rich.

Most people think that the richer they are, the happier and more successful they become. In Greek mythology, Croesus wished that all he touched would turn to gold, which it did, and he died as a result. Since ancient times, wise sayings have been quick to point out that riches are short-lived and uncertain, and it would be foolish to fix hope on something so transient. Based on her own experiences and those of her clients, Thayer Willis wrote an epic book named 'Navigating the dark side of wealth'. She addressed the dangers in our materialistic culture. The author explained the risks of great wealth that can lead people into the morally corrupting and emotionally inhibiting effects that having material riches can cause and, sooner or later, the pain and distress that follow. The author, importantly, also talked about the troubled successors need for more balanced and fulfilling relationships.

E-mail: rubaيلمurshed@shomman.org



Experts call for integrated mosquito management plan and PPP to prevent ongoing dengue crisis in Bangladesh

STAR HEALTH REPORT

The International Society of Bangladesh-affiliated Microbiologists (ISBM) organised a webinar on the dengue crisis that is claiming many lives daily in Bangladesh, says a press release. Based in Maryland, USA, ISBM carried out this online event on Zoom on August 26, 2023, entitled "Current state of the dengue epidemic in Bangladesh: potential short-term and long-term remedies for control and prevention." An international panel of experts from home and abroad delivered their presentations over a two-hour-long webinar.

Some of the essential ideas and opinions that were exchanged during the session included the current state of dengue and how it has escalated to a serious, life-threatening level in Bangladesh. Dr Shirin updated the audience on the status of dengue in Bangladesh and IEDCR's initiatives to control the spread of the vector, the Aedes mosquito.

Typical reservoirs and breeding grounds for these mosquitoes were the areas surrounding household WASA water metres and construction sites, besides plant pots and roof-top gardens. Biological control of mosquitoes has been successful in controlling dengue in Singapore. Therefore, a combination of currently available biological treatment on the ground and aerial spraying of safe pesticides may be effective for the immediate control of dengue in Bangladesh.

Dr Shakila presented her work on *Bacillus thuringiensis*, which produces a protein that effectively kills Aedes mosquito larvae. Domestic remedies mentioned at the meeting included growing peppermint, 'gandha' flowers, and basil leaves, which may have a repellent effect on mosquitoes. Among the topics of public health awareness, personal protection from mosquito bites was mentioned.

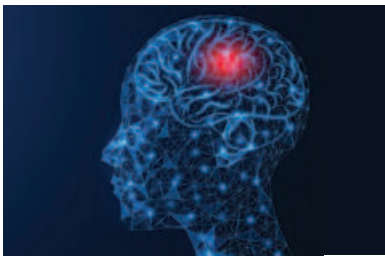
Due to the unavailability of vaccines and no specific treatment to counter dengue infection in Bangladesh, it was stressed and agreed upon that the country is indeed in dire need of improving and synchronising its public health policies for effective mosquito management.

Vaccine development, which involves a time-consuming and meticulous screening process, was additionally another brief focus of discussion and is a distant possibility for Bangladesh to combat dengue. Issues related to serotype variability and vaccine administration amongst vulnerable age groups were pointed out.

While summarising the webinar, Dr G U Ahsan also emphasised public health awareness, coordination between administrators and scientists, and community engagement for effective control of dengue. Based on prior research carried out in Bangladesh, source reduction of mosquitoes should be given a priority to combat dengue, and managing water would be key to reducing the disease.



Hypertension, migraine, and cervical artery dissection risk are correlated, while beta-blockers offer potential prevention



Cervical artery dissection (CeAD) is a common cause of brain ischemia in young and middle-aged adults, yet its underlying causes remain unclear and challenging to study. In a study featured in the *Annals of Neuroscience*, researchers investigated three groups of patients from 39 centres in Italy:

1. Patients with sCeAD (spontaneous cervical artery dissection)
2. Patients with acute stroke from other causes unrelated to sCeAD
3. healthy control individuals without a history of stroke who were staff members at these centres.

Each patient with sCeAD was matched with a stroke patient from the non-CeAD group and a stroke-free control of the same age, sex, and race.

The study involved 1,468 patients with spontaneous events. Factors associated with a higher risk of sCeAD included hypertension, a personal history of migraine (especially with aura), and a family history of vascular disease in close relatives. Surprisingly, traditional stroke risk factors like diabetes, high cholesterol, and obesity were less common among sCeAD patients when compared to stroke-free controls.

Patients with sCeAD also experienced more frequent migraine attacks and were less likely to receive migraine-preventive drugs, particularly beta-blockers, compared to both comparison groups. These findings shed light on the risk factors and characteristics of CeAD, aiding our understanding of this condition.

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UROLOGY

Dr. AB Shahriar Ahmed
MRCSd, FCPS, MS
Consultant

Dr. M. A. Zulkifl
FCPS, FRCS (England)
Senior Consultant

Prof. Maj. Gen. Md. Shahidul Islam (Retd)
MCPS, FCPS, FACS (USA)
Senior Consultant

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