

## MODERN CULTURE

The impact of modern culture on Indian lifestyle is undeniable, evident in the shifting traditions and practices that once defined daily life. Celebrating children's birthdays now involves cutting cakes and extinguishing candles, replacing the more traditional religious rituals and pujas. The evolution extends to clothing, with pajamas and dhotis giving way to night suits and Western attire like pants, bushshirts, and ties. Daily practices undergo transformation as well, as touching the feet of elders shifts to a more Westernized gesture of a mother's kiss.

Values and lifestyle choices appear to be diversifying, with the ultimate pursuit sometimes seeming to be in leisure and substances like alcohol and drugs. This narrative underscores the intricate interplay between tradition and modernity in shaping the cultural landscape of India.

## Vishwakarma-the architect and engineer of gods

■ OMKAR DATTATRAY

Vishwakarma is the divine carpenter and master craftsman who fashioned the weapons of the gods and built their cities and chariots .He is the architect of the mythical city Lanka and is also said to have made great images of Jagannath at Puri (Orissa).Vishvakarma in Hindu mythology is architect of the gods .The name was originally used as an epithet of any powerful god but later came to personify creative power .He is said to had revealed the sciences of architecture and mechanics to humans and is the patron deity of workers ,artisans ,and artists .So Vishvakarma is a craftsman deity and the divine architect of the gods in the contemporary Hinduism .In early texts, the craftsman deity was called as Tvastar and the word Vishvakarma was originally used as an epithet for any powerful deity .However ,in many later traditions ,Vishvakarma became the name of craftsman god .Vishvakarma crafted all of the chariots of the devas and weapons including the Vajra of the god Indra .Vishvakarma was related to the sun god Surya through his daughter Samjna .According to legend ,when Samjna left her house due to Surya's energy ,Vishvakarma reduced the energy and created various other weapons using it .Vishvakarma also built various cities like Lanka ,Dwaraka and Indraprastha .According to the epic Ramayana ,the vanara (monkey or forest man).Nala was the son of Vishvakarma ,created to aid the avatar Rama .The term Vishvakarma was originally used as an epithet for any supreme god and as an attribute of Indra and sun. The name Vishvakarma occurs five times in the tenth book of Rigveda .The two hymns of the Rigveda identify Vishvakarma as all-seeing, and having eyes ,faces, arms and feet on every side and also has wings .Brahma ,the god of creation ,who is four-faced and four -armed resembles him in these aspects. .He is represented as being the source of all prosperity ,swift in his thoughts and titled a seer ,priest ,and lord of speech .Vishvakarma is considered to be the fifth monotheistic God concept .He is both The Architect and The Divine Engineer of The universe from before the advent of time.Vishvakarma Puja also rendered Vishvakarma Jayanti ,is a Hindu observance dedicated to Vishvakarma ,the architect of the gods .It falls on the date of Kanya Sankranti of the Hindu calendar .It is generally celebrated every year between 16and 18 September ,according to the Gregorian calendar ,the last few days of the Hindu Bhadra month .The festival is also celebrated in Nepal .Vishvakarma Puja is also celebrated a day after Diwali along with Goverdhan Puja in October -November .Vishvakarma Puja is a festival celebrated in India to honor Lord Vishvakarma ,the divine architect .It is observed with great devotion in workplaces and among artisans .Preparations include cleaning and decorating workplaces ,performing rituals ,and showcasing creations .People send messages and wishes to their family and friends ,seeking blessings for creativity ,prosperity and success .The Puja is an occasion to embrace new ideas and technologies and is a platform to appreciate skills and creativity in various fields .This auspicious day is observed with great fervor and devotion across the country ,especially in workplaces ,factories ,and among artisans. Vishvakarma Puja is celebrated to pay homage to Lord Vishwakarma ,the divine engineer and creator according to Hindu mythology .Lord Vishwakarma is believed to have constructed the celestial abodes ,weapons, and vehicles of gods and goddesses .This festival holds immense importance for workers ,craftsmen ,and industrial laborers .It is an occasion to seek Lord Vishvakarma's blessings for skill ,creativity ,and success in their respective fields .Vishvakarma Puja also symbolizes innovation and excellence in craftsmanship .It encourages individuals to embrace new ideas and technologies to improve their workmanship .Preparations for Vishvakarma Puja usually begin a few days in advance.People clean and decorate their workplaces ,factories ,and machinery ,tools and implements .Idols or images of Lord Vishwakarma are cleaned and adorned with flowers .On the day of Puja ,a priest or a skilled artisan performs the rituals .The day starts with the chanting of Vedic hymns and the offering of flowers ,fruits .Artisans and workers often showcase their craftsmanship on this day ,presenting their latest creations or innovations .It is a platform to appreciate and acknowledge the skills and creativity of individuals in various fields .On the occasion of Vishvakarma day ,artisans ,craftsmen and laborers clean their machinery ,tools and implements and worship these by offering flowers and fruit .Usually on this day artisans ,craftsmen and laborers enjoy a holiday and abstain from work and instead worship Lord Vishwakarma and seek his blessings and they also worship their tools ,implements and machinery .As already mentioned this auspicious day is dedicated to Lord Vishwakarma ,who is worshipped as the celestial builder of the universe .On this day ,the skills and craftsmanship of artisans ,engineers ,and workers across various industries is honored .Some factories and workshops declare holiday for their craftsmen and laborers on Vishvakarma Jayanti .It is not only a religious observance but also a celebration of the creativity ,talent ,and hard work of the artisans and craftsmen .This festival is observed predominantly by the people involved in various forms of craftsmanship ,including artisans ,engineers ,architects ,mechanics ,and factory workers .The festival holds immense significance for people in large parts of the country .This auspicious day is dedicated to Lord Vishwakarma ,who is worshipped as the celestial builder of the universe .On this day ,the skills and craftsmanship of artisans ,engineers and workers across various industries is honored .Some factories and workshops declare holiday for the craftsmen on Vishvakarma Jayanti .Others worship a photo of the deity and celebrate the occasion by distributing sweets among workers. Vishvakarma Jayanti promotes the idea that every form of work ,no matter how humble ,is valuable contribution to the world .This day also symbolizes the beginning of new ventures ,the inauguration of factories and workshops ,and the worship of tools and machinery .In his independence Day speech this year ,PM Narendra Modi announced the Vishvakarma Yojana and said the scheme is aimed at helping those with traditional skills ,who use their hands and basic tools to make a living .The origin of Vishvakarma Jayanti can be traced to ancient scriptures and texts .The earliest references to Vishvakarma Jayanti can be found in Rigveda ,one of the oldest sacred texts of Hinduism .Over the time ,this festival evolved and became an important occasion for artisans ,craftsmen ,and workers to pay homage to Lord Vishwakarma ,seeking his blessings for skill ,creativity and prosperity in their respective trades .In short today Vishvakarma Jayanti and his personality stands as a symbol of India's rich cultural heritage and its recognition of the importance of skilled labor in building and advancing society.

(The author is a columnist,social and KP activist).

## Yoga therapy in Diabetes Mellitus-Mechanistic insights

■ DR. KUSH DEV SINGH JARIAL

Type 2 Diabetes mellitus is a chronic metabolic disorder and is a global pandemic of the 21st century.Rapid socioeconomic changes and urbanization leading to changes in lifestyle and behaviour have resultedin an increased incidence of diabetes in the developing world. Complications of type 2 diabetes aredirectly related to the control of blood glucose and duration of diabetes; however, worldwide half of the people living with diabetes do not have good glycaemic control. Lifestyle modifications include dietary modifications, physical activity,and behavioural aspects like stress, smoking cessation, and moderation of alcohol are important factors but poor adherence to lifestyle modifications is common in patients with type 2 diabetes.Any form of behavioural change is difficult to sustain if it is not enjoyable, too rigid/ strict to follow, socially, culturally, and financially unacceptable.

Alternative and complementary system of medicine like AYUSH, yoga, herbal formulations, acupuncture, aromatherapy, etc. has been in use for centuries worldwide for the treatment of chronic diseases like diabetes mellitus. Yoga as a science of healing has been known for thousands of years to mankind and the primary aim of which has been to maintain the balance of the human mind and emotions with the body. Yoga therapy due to its cost-effectiveness and proven benefits in diabetes has been included in the American diabetes association guidelines.

Key defects in the pathophysiology of type 2 diabetes mellitus

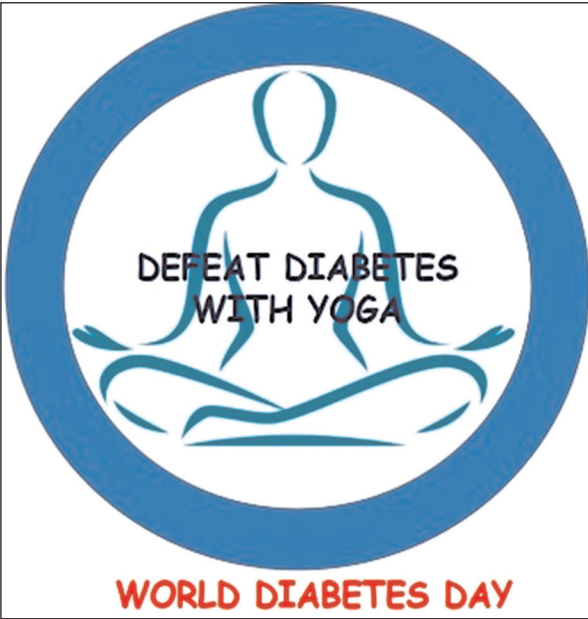
Yoga as a therapeutic option formanaging diabetes has been viewed as a cost-effective approach worldwide due to its potential benefits; however, research on its mechanism for diabetes control has gained attention in the past few years.The "Ominousocet" (bad eight) of diabetes mellitus includes decreased insulin secretion, decreased incretin effect (ineffective intestinal hormones), increased free fatty acids, decreased uptake of glucose in various tissues /increased absorption of glucose from the intestine and kidney, defective neuroendocrine control, increased glucagon and increased glucose formation from liver are eight cardinal defects in the pathogenesis of type 2 diabetes.

Mechanisms of Yoga Therapy on Diabetes Control

Yoga as a therapy for chronic disorders like diabetes is a new and emerging trend. Yoga therapy modulates the ominous ocet of diabetes by different mechanisms and helps in controlling glucose control and preventing complications.

Neuroendocrine control

The autonomic nervous system (ANS) through sympathetic (inhibition) and parasympathetic (stimulation) nerves exerts control on the pancreas. Yogic breathing pranayama like bhastrika, bhrumari, sheetali/sitkari, chandra andsuryabhedan(left and right nostril breathing)) results in fine-tuning of insulin secretion by regulation of ANS. Yogic asanas involving intensive and strenuous exercise like kapalbhati, bhastrika, and pranayama ( regulated rapid breathing) augments sympathetic activity thus inhibiting insulin release; while mild intensity asanas like



mind and body relaxation techniques, slow breathing along with a focus on mind, meditation stimulates parasympathetic activity andreduces sympathetic activity thus regaining and balancing not only the insulin secretion but also endocrine control through the autonomic nervous system through vagal modulation.

Improved insulin sensitivity

Various yogic postures lead to contractions and relaxations of musculature, which leads to increased glucose transporter expression in muscles thus increasing glucose entry in the cells. It also decreases the free fatty acid levels in the blood thus improving insulin sensitivity and its secretion. These asanas also have positive effects on fat metabolism and redistribution in patients with diabetes. Ling mudra, Surya mudra and prana mudra increase metabolic rates promote weight loss thus increasing sensitivity and reducing blood glucose levels.

Decreasing Stress hormones

Chronic stress leads to the sustained rise of stress hormone (cortisol) while acute stressful conditions lead to an acute release of stress hormones. Cortisol has an adverse effect on glucose metabolism and leads to a rise in blood glucose. Asanas like savasana involving breath awareness and deep relaxation control neuronal pathways of endocrine glands thus decreasing stress hormones; thus achieving glycemic control or helping in preventing diabetes. Apan mudra, Gyan mudra, meditation ( dhyana) involving mindfulness "aum" chanting and yoga Nidra etc have beneficial psychological effects, anxiety reduction, better sleep, greater relaxation, more accepting, positive energy and stabilized brain; all of which not only have positive effects on glycemic control but helps in prevention coronary heart disease.

## Diabetes is a growing global health issue

■ SURJIT SINGH FLORA

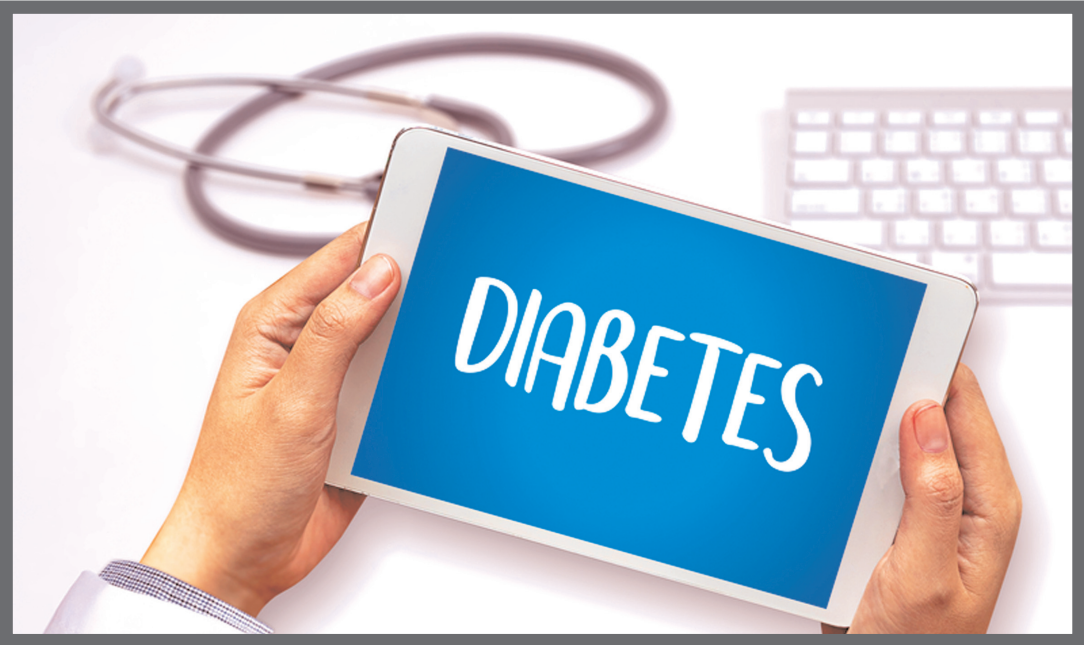
World Diabetes Day, observed on November 14th, commemorates the birth anniversary of Frederick Banting. Banting, alongside Charles Best, played a pivotal role in the conceptualization and subsequent discovery of insulin in 1921.

The designated theme for World Diabetes Day in 2023 is "Enhancing Access to Diabetes Care." The central theme of this discussion centers around the significance of equitable access to diabetes healthcare and the provision of accurate information pertaining to the disease. The central focus of this year's theme revolves around providing comprehensive diabetes education to individuals who are managing the condition.

The causes of diabetes include-- The combination of binge eating, lack of physical activity, and hypothyroidism can result in the excessive accumulation of blood glucose within the human body. When there is an excess of glucose in the body, it undergoes conversion into fat which is then stored in various areas such as the abdomen, thighs, waist, chest, arms, hands, and legs. When there is a lack of available space, the excess glucose is eliminated from the body through the process of urination, which is a characteristic symptom of diabetes. The presence of velvety plaques in the neck and/or armpit region may indicate a potential association with diabetes. Women may experience certain health conditions such as polycystic ovarian syndrome and gestational diabetes during pregnancy. Untreated hypothyroidism has the potential to result in the development of diabetes and hypertension.

The Indian diet primarily comprises refined cereal grains, such as white rice or refined wheat, which contribute to approximately 50% of the daily caloric intake. Therefore, it can be observed that Indian diets exhibit a significantly elevated dietary glycemic load, which in turn is correlated with an increased susceptibility to diabetes. Approximately 16.7% of individuals worldwide diagnosed with diabetes are residents of India.

There is a global population of approximately 537 million adults between the ages of 20 and 79 who are currently diagnosed with diabetes. This accounts for approximately 1 in 10 individuals



within this age group. The projected figure indicates that the number is expected to increase to 643 million by 2030 and further to 783 million by 2045. More than 75% of adults diagnosed with diabetes reside in low- and middle-income countries. The presented data necessitates immediate intervention. The significance of diabetes education cannot be overstated, as it enables individuals to make well-informed decisions, adopt behavioral changes, and effectively address the psychosocial challenges associated with this potentially life-threatening condition.

According to research findings (11), adult males exhibit a higher susceptibility to developing type 2 diabetes in comparison to adult females. Around 30% of the Canadian population identifies themselves as having African, Arab, Asian, Hispanic, or South Asian heritage (14). The following demographic groups have a higher susceptibility to developing type 2 diabetes (11).

According to a recently published study conducted by the Madras Diabetes Research Foundation and the Indian Council of Medical Research, India is home to approximately 101 million individuals diagnosed with diabetes, with an additional 136 million individuals in the pre-diabetes stage. The percentage of population in Kerala is 25.5%, in Chandigarh it is 20.4%, in Delhi it is 17.8%, in Tamil Nadu it is 14.4%, in West Bengal it is 13.7%, in Sikkim it is 12.8%, in Punjab it is 12.7%, and in Haryana it is 12.4%.

In India, it is estimated that

there are approximately 77 million individuals aged 18 and above who are affected by type 2 diabetes, with an additional 25 million individuals classified as prediabetic, indicating a heightened risk of developing diabetes in the near future.

Presently, there is an estimated population of 25.2 million adults who are believed to be affected by impaired glucose tolerance (IGT). Projections indicate that this number is expected to rise to approximately 35.7 million by the year 2045. India is positioned as the second highest country, following China, in terms of the global diabetes epidemic, with a staggering 77 million individuals affected by this condition.

According to the Indian government, the increasing prevalence of diabetes can be attributed to factors such as unhealthy dietary patterns, insufficient physical activity, and the detrimental consumption of alcohol and tobacco.

Professor Magliano presented the rankings of the top 10 countries worldwide based on the prevalence of diabetes among adults. China is currently the global leader with a population of 140.9 million individuals. Following China, the countries with the next highest populations are India, Pakistan, the United States, Indonesia, Brazil, Mexico, Bangladesh, Japan, and Egypt.

Diabetes is a chronic medical condition characterized by elevated blood glucose levels. The condition arises due to the body's impaired capacity to produce or effectively utilize insulin. Insulin is a hormone that facilitates the

utilization of glucose for energy within the human body. Insufficient insulin production or utilization can result in the accumulation of glucose in the bloodstream, which can give rise to a range of health complications.

There exist two primary classifications of diabetes, namely Type 1 and Type 2. Type 1 diabetes is a medical condition characterized by an autoimmune response, wherein the body's immune system targets and eliminates the insulin-producing cells within the pancreas. In the absence of insulin, the body's ability to utilize glucose for energy is compromised, resulting in elevated blood glucose levels. This particular form of diabetes typically initiates during childhood or adolescence and constitutes approximately 10% of all reported cases of diabetes.

Type 2 diabetes is widely recognized as the predominant form of diabetes, constituting approximately 90% of all reported cases. The root causes can be attributed to a combination of genetic and environmental factors. Individuals diagnosed with type 2 diabetes commonly exhibit a higher body weight or obesity, coupled with insufficient insulin production, resulting in challenges in regulating their blood glucose levels. Over a period of time, the human body develops a resistance to the physiological effects of insulin, resulting in the accumulation of glucose within the circulatory system.

The precise etiology of diabetes remains uncertain; however, researchers posit that a multifactorial interplay of genetic predis-

Oxidative stress and Inflammatory cytokines

Diabetes is a state of chronic pro-inflammatory state with evidence of increased pro-inflammatory markers like plasma C-reactive protein, TNF- $\alpha$ , Interleukin-6, etc. in diabetic patients. These markers decrease insulin secretion, increase insulin resistance, and accelerate atherosclerosis and other complications of diabetes. Studies have shown that practicing yoga therapy reduces these markers of inflammation thus preventing diabetes and its complications.

Regulation of insulin and glucagon secretion

Yogic purification/cleansing practices (shatkarmas) like vamanahauti(stomach cleansing), kapalbhati (frontal brain purification) and shankhaprakshalan a(in testinal cleansing)increase the production of insulin thus helping to control blood glucose. Achieving the balance of the autonomic nervous system through rapid and slow yogic practices regulates pituitary gland and hypothalamus functions which modulate the function of insulin and glucagon-secreting cells of pancreas. Surya namaskar performed in brisk and energetic way increases insulin production through brain signaling as this asana increases the cellular requirement of insulin and oxygen. Abdominal contractions and relaxations during asanas (agnisarkriya, kapalbhati)massage the pancreas rejuvenating pancreatic beta cells and stimulating insulin secretion. Pancreatic functions are also improved by yogic practices done in seated postures such as ardhnamasyendrasana, yoga mudra, and mandukasan.

Yoga and mindful eating

Mind-body connection through yogic practices like pranayama, Sudarshan kriya, and meditation leads to self-awareness, self-reflection, and self-change thus improving eating habits/disorders. Improvement in eating habits has consistently shown improvements in dietary intake, modest weight loss, and glycaemic control in people suffering from diabetes. Yoga also encourages the intake of foods like vegetables, which are low in carbohydrates and high in fiber content, which is important in diabetes control.

Yoga should be learned from a trained yoga professional. All yoga asanasinvolve posture manipulation which may be difficult to do for persons with diabetes complications or those who have physical limitations. All diabetic patients practicing yoga should not stretch themselves beyond their physical capacity. Safe yoga styles should be learned and practiced in people with diabetes having complications. Sarvangasana and sheershasana may exacerbate diabetic retinopathy, vigorous or yoga performed in harsh weather should be avoided in patients having cardiovascular disease. Exercise and yoga therapy should not be considered synonymous as yoga therapy emphasizes breath regulation, maintenance of postures, meditation, and mindfulness while doing these practices. Yoga as a lifestyle change is enjoyable, easy to follow, and has no socio-cultural and financial barriers. Evidence suggests that yoga interventions appear to be equal and/or superior to exercise in most outcome measures.

(The writer is Assistant Professor, Department of Endocrinology & Metabolism, AIIMS Jammu).

position, lifestyle choices, and environmental influences may collectively contribute to its pathogenesis. The influence of genetics is evident in the development of both type 1 and type 2 diabetes. Scientists have successfully identified specific genes that may confer a higher susceptibility to the development of diabetes in certain individuals. Furthermore, lifestyle and environmental factors, including dietary choices, level of physical activity, and potential exposure to specific toxins, can potentially elevate an individual's susceptibility to developing diabetes.

The global incidence of diabetes is on the rise, posing a significant public health challenge. The global prevalence of diabetes is estimated to exceed 420 million individuals, with projections indicating a significant rise to over 642 million by the year 2040. Diabetes is a prominent contributor to mortality and morbidity, often leading to severe health complications such as cardiovascular disease, cerebrovascular accidents, renal failure, visual impairment, and neuropathy.

One of the most effective strategies for preventing or delaying the onset of diabetes is to adopt and maintain a healthy lifestyle. It is important to maintain a well-rounded lifestyle by adhering to a balanced diet, engaging in regular physical activity, and refraining from smoking and excessive alcohol consumption. Furthermore, individuals who have a familial predisposition to diabetes should undergo regular screening to detect elevated blood glucose levels. Timely identification and intervention can effectively mitigate the likelihood of experiencing complications associated with diabetes.

For individuals with diabetes, it is advisable to incorporate a greater quantity of high-fiber foods into their diet. Soluble fiber, a specific type of dietary fiber, has the potential to aid in the regulation of blood sugar levels. Please consider incorporating the following high-fiber foods into your diet: The following vegetables are available: cauliflower, okra (also known as Bhindi), eggplant (also known as Brinjal or Baingan), bitter melon (also known as Karela), spinach, potato, corn, sweet potato, broccoli, and carrots.

(The author is a veteran journalist and freelance writer based in Brampton Canada).