

DRS - WCPD

DIABETES RESEARCH & SOLUTIONS

11TH WORLD CONGRESS ON PREVENTION OF DIABETES AND ITS COMPLICATIONS

Theme:

Prevention of Diabetes and Prevention of Complications

Daily Digital Conference Newsletter

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The Westin, Powai Lake, Mumbai

DRS-WCPD 2024 Inaugurated with Fanfare



Dear Colleagues,

The organizing committee of the DRS (Diabetes Research and Solutions) is delighted to welcome you to this prestigious event.

This year is special as DRS is hosting 11th World Congress on Prevention of Diabetes and its Complications (WCPD). This congress is dedicated to sharing the latest advancements in preventing diabetes and its complications, addressing both type 1 and type 2 diabetes.

Over the course of 3 days, we will delve into cutting-edge research and explore new approaches to diabetes prevention, education, and treatment. This conference offers a unique opportunity for you to engage with experts in endocrinology and diabetes research,

participate in insightful discussions, and contribute to the development of strategies aimed at improving the quality of life for individuals living with diabetes globally.

We are confident that the scientific sessions, keynote presentations, and interactive workshops will inspire you with fresh ideas and perspectives. The WCPD 2024 is more than just a conference; it is a collective effort to advance our shared mission of preventing diabetes and mitigating its complications.

We eagerly anticipate your participation and look forward to welcoming you to Mumbai. Together, let us work towards a future where diabetes and its complications are effectively managed and the lives of millions are enhanced.

Welcome to Amchi Mumbai!

From
Dr Manoj Chawla & Dr Purvi Chawla
The Organizing Committee



Association of Nutritional Factors with Type 2 Diabetes in India

The debate over whether the diabetes epidemic is primarily driven by genetic or environmental factors continues. Three key contributors to diabetes have been identified: high carbohydrate intake leading to increased glycemic load, reduced physical activity, and urbanization-related factors such as air pollution. A multicountry study involving 21 nations revealed that higher white rice consumption is associated with an increased risk of diabetes, particularly in South Asia, while other regions exhibited only a modest, nonsignificant association. Conversely, another study found that increased dairy intake was linked to a modest reduction in the prevalence of metabolic syndrome (MS) and its components, including a lower incidence of hypertension and diabetes



Dr U Mohan
Chennai

(Cont'd on pg. 2....)

Amplify TIR – Comparative Analysis of SGLT2 + DPP-4 Combination in Indian Patients

Time-in-range (TIR) refers to the duration an individual spends within the target glucose range, typically 70 to 180 mg/dL. Research indicates that a 1% decrease in TIR increases the risk of microalbuminuria, peripheral neuropathy, and cardiopathy by 40%, 25%, and 60%, respectively. Therefore, maintaining glucose levels within the recommended range is crucial to prevent diabetes-related complications.



Dr Shashank Joshi
Mumbai

The Amplify TIR study evaluated the efficacy of a fixed-dose combination (FDC) of dipeptidyl peptidase 4 (DPP-4) inhibitors and sodium-glucose cotransporter-2 (SGLT2) inhibitors in improving parameters derived from

(Cont'd on pg. 2....)

The Diabetic Pandemic: Where are we, Where are we Headed and What can Population-based Interventions Add in Turning the Tide

- ▣ The type 2 diabetes pandemic continues out of control.
- ▣ The main problem is the increasing prevalence.
- ▣ To control prevalence, we must decrease incidence.
- ▣ To decrease incidence, we must: Not only continue to implement and improve high-risk clinical strategies; But with equal or greater emphasis – Stimulate our societies to implement population-based measures, evaluate the effectiveness of these measures.
- ▣ Interventions in nutrition include marketing bans, front-of-pack nutrition labels, taxes on sugar-sweetened beverages and subsidies on fruits and vegetables, and product reformulations.



Dr Bruce Duncan
USA

Origin of Diabetes – The Gut Feeling



Dr Atka Gandhi
Mumbai

The gut plays a critical role in regulating glucose and energy homeostasis. Emerging evidence suggests that the gut may also contribute to the pathogenesis of type 2 diabetes, influenced by both intestinal microbiota composition and gut hormone secretion patterns. The gut microbiota may produce molecules that impair insulin secretion and action.

Several studies have demonstrated the following:

- ▣ Microbiota dysbiosis is present in both type 1 and type 2 diabetes patients.
- ▣ This dysbiosis can contribute to insulin resistance, low-grade inflammation, and fat deposition through various molecular interactions with the host.
- ▣ Gut microbiota dysbiosis may lead to increased gut permeability (“leaky gut”).
- ▣ This, in turn, allows external antigens to enter the circulation unchecked.
- ▣ These antigens may trigger islet autoimmunity, directly damage pancreatic beta cells, and cause hormonal imbalances leading to metabolic disorders.

Some antidiabetic interventions targeting gut microbiota include probiotics, prebiotics, traditional Chinese medicine, natural compounds, and non-drug therapies like bariatric surgery, fecal microbiota transplantation, diet, and exercise. Pharmacological treatments include incretin therapy, alpha-glucosidase inhibitors, SGLT2 inhibitors, and metabolic surgery. These strategies aim to improve gut health and mitigate the metabolic disturbances associated with diabetes.

Unique Ways in Patient Communication and Connect: Overcoming Limitations

Effective communication is key to accurate diagnosis, treatment adherence, and patient satisfaction. However, hearing impairment is an often overlooked complication of diabetes. Diabetes-related hearing loss is associated with microangiopathy and damage to the stria vascularis, endolymph, hair cells, and cochlear nerve. Unfortunately, there is currently no cochlear equivalent of a fundus examination, making early detection and treatment of hearing loss vital for preventing cognitive decline, dementia, and depression.



Dr Amit Rajput
Jalgaon

One practical method for communicating with patients experiencing hearing loss is the “Stethospeak” technique. In this approach, the stethoscope is reversed so the patient wears the earpieces while the doctor speaks into the diaphragm, ensuring clear communication.

When patients can hear and understand their doctor’s words clearly:

- ▣ They no longer feel neglected.
- ▣ Complex instructions can be effectively conveyed.
- ▣ Regular follow-ups become more likely, resulting in better management of diabetes and related comorbidities.
- ▣ Family members can also use the stethoscope at home for communication.
- ▣ It encourages the use of hearing aids, breaking the stigma often associated with them.

Enhancing Longevity in Diabetes – A Thought from the Beginning

Diabetes is a major cause of premature death and disability. One critical factor in the progression of type 2 diabetes complications is the interaction between oxidative stress and cellular dysfunction, particularly in the mitochondria. This leads to endothelial cell dysfunction. Additionally, chronic metabolic overload can damage the mitochondrial network, compromising mitochondrial DNA and function, which increases the risk of age-related diseases and premature functional decline.



Dr NK Singh
Dhanbad

Fortunately, several strategies can help address and halt this progression:

- ▣ Lifestyle Interventions: Lifestyle changes are among the most effective methods for managing diabetes. A balanced diet, regular exercise, and practices such as intermittent fasting can improve glucose control and reduce oxidative stress, thereby slowing the progression of diabetes and its complications.
- ▣ Respecting Circadian Rhythms: Following circadian rhythms, a principle rooted in ancient Indian wisdom, can significantly enhance metabolic health. Meal timing and dietary components (chrononutrition) play a crucial role in regulating circadian clocks, promoting longevity, and reducing the risk of type 2 diabetes.
- ▣ Pharmacological Interventions: Certain medications can help maintain metabolic health and manage diabetes. Drugs like metformin, pioglitazone, glucagon-like peptide-1 receptor agonists, and SGLT2 inhibitors effectively control blood sugar, reduce oxidative stress, improve insulin sensitivity, and preserve endothelial function.

(...Cont'd from pg. 1) Association of Nutritional Factors with Type 2 Diabetes in India

over time. In Asian Indians, higher dairy consumption has been shown to mitigate cardiometabolic risk factors such as elevated blood pressure, body mass index, FPG, and low high-density lipoprotein cholesterol, thereby reducing MS prevalence.

At the population level, diabetes reversal may be achievable through diet modifications. Even a 10% reduction in carbohydrate intake, replaced with portion, particularly from plant sources, can prevent or remit type 2 diabetes. Recommendations for macronutrient intake in Indian South Asians emphasize the importance of both the quantity and quality of macronutrients, with strategies encompassing both population-wide and individualized approaches.

It can be concluded that healthier diets with lower carbohydrates along with increased protein and fiber, along with increased physical activity can help prevent and control type 2 diabetes in India.

(...Cont'd from pg. 1) Amplify TIR – Comparative Analysis of SGLT2 + DPP-4 Combination...

24-hour glucose monitoring. The study compared the effects of FDC of teneligliptin 20 mg + dapagliflozin 10 mg (Arm A), sitagliptin 100 mg + dapagliflozin 10 mg (Arm B), and linagliptin 5 mg + empagliflozin 25 mg (Arm C) in Indian patients with type 2 diabetes mellitus using continuous glucose monitoring (CGM).

The results demonstrated a significant reduction in TAR (time above range) levels across all three groups from baseline to the end of the study. Comparable efficacy in improving TIR was observed among the study arms, except between Arm A and Arm B. There were no significant changes in TBR (time below range) levels across the groups from baseline to the end of the study.

Additionally, all groups had a significant reduction in HbA1c, fasting plasma glucose (FPG), and postprandial glucose (PPG) levels. Arm A showed significantly better FPG control than Arm B in phase II. Significant improvements in estimated glomerular filtration rate, serum creatinine, and blood urea nitrogen levels were observed across all three treatment arms by the end of phase II.

Based on these findings, the following conclusions can be drawn:

- ▣ The glycemic variability parameter improved significantly for the teneligliptin + dapagliflozin combination from baseline to the end of treatment.
- ▣ Glycemic and renal parameters improved with the teneligliptin + dapagliflozin combination, comparable to the other study arms.
- ▣ The FDC of teneligliptin + dapagliflozin was comparable and noninferior to sitagliptin + dapagliflozin and linagliptin + empagliflozin in improving glycemic variability and renal parameters.

Prevention of Adolescent Obesity

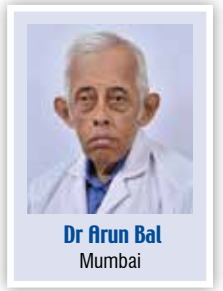
Globally, 175 million children and adolescents are living with obesity, and the prevalence is on the rise. Different definitions of obesity exist worldwide, but in India, home to the largest adolescent population, the government's National Youth Policy classifies youth as those aged 15 to 35 years, with adolescents defined as 13 to 19 years old. While obesity has multifactorial causes, environmental factors are especially significant in adolescent obesity. These include socioeconomic status, diet, physical activity, parental and prenatal influences, and psychosocial or emotional factors. Most countries rely on BMI to assess overweight and obesity, though its limitations as a measure are well-known. Recognizing obesity as a disease in children and adolescents is crucial for early intervention and management. The complex relationship between adolescent obesity and psychological factors demands attention and corrective measures. Prevention strategies must involve families, communities, and the food industry. The home environment plays a critical role in shaping children's eating habits, while the food industry can provide affordable, nutrient-dense, low-sugar, and low-fat foods. Communities also contribute by maintaining playgrounds and sports programs. Addressing childhood obesity should begin in the consultation room, with efforts extending into the broader world to make a lasting impact.



Dr Purvi Chawla
Mumbai

How to Prevent DFU with a Regular Clinical Biochemical Examination at All Levels of Health Care

The mechanism behind diabetic foot ulcers (DFU) highlights that impulse loading, rather than just high pressure, plays a critical role. Impulse loading, defined as the product of pressure and ground contact time, is more relevant in causing injury. Patients with diabetes may need to adjust their exercise routines since pressure between 500 to 700 Kpa is the threshold for injury; faster gaits and longer strides increase pressure. Certain exercises are restricted for individuals with diabetic feet, including those with insensate or deformed feet, existing or previous ulcers, and activities like treadmill use, prolonged walking, jogging, and using stair masters. Unprotected walking can further damage the feet in diabetes, making it essential to go beyond wound healing and focus on biochemical correction to prevent a recurrence. To effectively reduce the risk of amputations, there is a need for comprehensive acute diabetic foot care units that address all aspects of foot care in diabetes.



Dr Arun Bal
Mumbai

Hypoglycemic Through TBR: What should we Know?



Dr Ami Sanghvi
Mumbai

Hypoglycemia is a significant complication of glucose-lowering therapies in diabetes management. To effectively manage hypoglycemia, various glucose monitoring tools are utilized, including self-monitoring of blood glucose (SMBG), real-time continuous glucose monitoring (CGM), and flash glucose monitoring (FGM).

For optimal glycemic control and to minimize hypoglycemia, consider the following factors:

- Time-in-Range (TIR) Data: This metric helps healthcare professionals evaluate glycemic control.
- Combination of Metrics: Utilizing multiple monitoring metrics may enhance future management strategies.
- Recommended Targets: Aim for a TIR greater than 70%, with time below range (TBR) less than 4% for levels below 3.9 mmol/L and TBR below 1%. However, these targets should be tailored to individual needs.
- Target Adjustments: Modify targets for older adults, high-risk individuals, pediatric populations, and pregnant women.

Importance of Vitamin D in Prediabetes



Dr Anil Bhoraskar
Mumbai

Vitamin D is vital in managing diabetes, prediabetes, and related health conditions. Its deficiency is linked to decreased insulin release and increased insulin resistance, key factors in developing type 2 diabetes. Studies have shown that maintaining sufficient vitamin D levels reduces the risk of progressing from prediabetes to diabetes, with supplementation showing a 10% to 13% reduction in this risk, regardless of initial levels. Moreover, vitamin D helps manage comorbidities like cardiovascular health, kidney function, obesity, and immune function.

Despite living in sun-rich areas, South Asians exhibit a high prevalence of vitamin D deficiency due to factors such as darker skin pigmentation, genetic variations affecting vitamin D metabolism, and limited sun exposure from indoor lifestyles and dietary choices. This deficiency often remains asymptomatic but increases the risk of type 2 diabetes, particularly in postmenopausal women, where it is associated with higher insulin resistance and poor glycemic control. Vitamin D supplementation can improve glycemic control, reduce HbA1c levels, and help manage FPG and PPG in diabetic patients. Long-term supplementation also enhances insulin sensitivity and lipid profiles, especially in those with deficiencies. Achieving adequate vitamin D levels is essential in preventing diabetes and improving overall metabolic health. However, excessive intake can cause hypervitaminosis D, which requires careful management, including halting vitamin D intake and adjusting calcium levels to prevent serious health consequences.

Revisiting Global Landmark Trials for Diabetes Prevention

Global type 2 diabetes prevention trials have provided valuable insights into effective interventions. Dietary strategies across studies consistently aimed at energy restriction, fat reduction, and increased fiber intake, with significant weight loss observed in the Diabetes Prevention Program (DPP) and the Finnish Diabetes Prevention Study (DPS) studies. Physical activity was universally emphasized, with goals such as 150 minutes per week in the DPP and daily walking in the Japanese impaired glucose tolerance (IGT) trial. Long-term follow-up was crucial for assessing the sustainability and impact of these interventions, which consistently showed that lifestyle changes outperformed other methods, including metformin alone, with the Japanese IGT trial achieving a 67% risk reduction. The reduction in diabetes incidence was independent of initial body weight, with those meeting multiple lifestyle targets benefiting the most, although weight reduction remained critical for overweight individuals. While lifestyle interventions delayed type 2 diabetes onset by at least 5 years, a residual risk persisted, particularly among those unable to fully adhere to lifestyle targets. Notably, individuals with a high genetic predisposition to diabetes have benefited significantly from these interventions.

It can be concluded after revisiting the landmark trials; Pioneering studies like Da Qing, DPS, and DPP have demonstrated that lifestyle interventions can significantly reduce type 2 diabetes risk across diverse populations. These trials have a global impact, serving as the foundation for national and international type 2 diabetes prevention programs. These studies have also shown the lasting impact of early lifestyle interventions in delaying or preventing type 2 diabetes onset. Real-world implementation continues to be an ongoing key challenge. Moving forward, building on the success of these trials, future efforts should focus on adapting proven strategies to diverse settings.



Dr Amit Gupta
Noida

Sitagliptin: The Legacy Continues

It is well-established that a 1% reduction in HbA1c can decrease the risk of diabetes-related complications by 21%, lower the risk of myocardial infarction by 14%, and reduce diabetes-related mortality by 21%. However, effective diabetes management extends beyond focusing on A1c levels or glucose control. It should encompass a broader approach, considering factors such as cardiovascular risk and mortality when choosing oral antidiabetic drugs. Current guidelines recommend metformin, either alone or in combination with SGLT2 inhibitors or DPP-4 inhibitors, for treating diabetes. Notably, DPP-4 inhibitors, such as gliptins, may be a better choice than SGLT2 inhibitors for several reasons, including:



Dr HN Chakravarti
Kolkata

- The use of SGLT2 inhibitors is associated with a higher risk of infections, osmotic diuresis, volume depletion, renal-related adverse effects, and increased blood ketone levels compared to placebo.
- While SGLT2 inhibitors show consistent efficacy across different races, gliptins have demonstrated significant efficacy in Asian populations.
- Additionally, some adverse effects of SGLT2 inhibitors, like volume depletion and genital mycotic infections, are more common in warm and humid conditions.

Meanwhile, findings from landmark trials have shown that: Sitagliptin has well-established efficacy and safety through various landmark trials. Adding sitagliptin to treatment regimens is an effective and well-tolerated option for patients who cannot achieve glycemic control. Sitagliptin and its combinations are particularly valuable in the Indian setting for achieving glycemic control. Sitagliptin, in combination with dapagliflozin, has shown significant benefits in Indian patients with type 2 diabetes. It provides glycemic control along with pleiotropic benefits.

Epidemiology of Dysglycemia in Large Populations: India

The prevalence of diabetes and other metabolic non-communicable diseases in India is considerably higher than previously estimated. While the diabetes epidemic is stabilizing in the more developed states of the country, it is still increasing in most other states.

Our estimates of the prevalence of diabetes and prediabetes in India (101 million and 136 million, respectively) are much higher than earlier reported figures. Over a quarter of the Indian population have dysglycemia, translating to 236.4 million people with dysglycemia. Only a third of those with diabetes have an HbA1c <7%. National guidelines do not recommend using HbA1c as the sole diagnostic criterion for diabetes and prediabetes. Our results also emphasize the interstate and interregional variations in diabetes prevalence in India.

Fewer than half of the individuals with diabetes have good control of blood pressure and low-density lipid cholesterol. Refined grain consumption is high, and fruit and vegetable consumption is very low. Levels of recreational physical activity are abysmally low in India. Reducing carbohydrates (%E) and increasing protein (%E) are recommended for both T2D remission and preventing progression to t2D in PD and NGT groups. Diabetes intervention is to be approached at various levels: individual, provider, and government.



Dr RIM Anjana
Chennai

Indian Diabetes Prevention Program

Lifestyle modifications can often prevent type 2 diabetes, but such interventions are usually resource-intensive. In India, primary prevention trials have demonstrated that it is possible to prevent or delay the onset of diabetes. One promising approach to delivering educational and motivational support for lifestyle changes is mobile phone messaging, which offers a cost-effective alternative to traditional methods. Both lifestyle modification and metformin have been shown to be beneficial in diabetes prevention. A study in India that employed mobile technology for primary prevention produced significant results, highlighting the potential of this approach. The key takeaways from the Indian SMS prevention study include: (i) mobile technology's capacity to influence behavior and reduce diabetes risk, (ii) the demonstration of a clinical outcome through information technology for the first time, and (iii) the observation that early improvements in a behavior predict better long-term outcomes.



Dr Nanditha Arun
Chennai

Additionally, the study revealed ethnic differences in response to mobile technology between populations in India and the UK, emphasizing the need for tailored approaches in different cultural contexts. The findings confirm that mobile phone messaging is an effective and acceptable method for delivering advice and support to individuals at high risk of developing type 2 diabetes. This approach can successfully promote lifestyle modifications necessary for diabetes prevention, especially in resource-limited settings where traditional interventions may not be feasible.

In summary, using mobile technology in diabetes management offers a scalable and impactful strategy, particularly in regions like India, where it has shown promising results.

Preconception Care: The Low-Hanging Fruit for Prevention



Dr Usha Sriram
Chennai

There has been a paradigm shift from the belief in a healthy mother to a healthy baby to a healthy woman to a healthy mother to a healthy baby.

The need for preconception care arises due to the following factors:

- Most pregnancies are unplanned.
- Women enter pregnancy older and heavier, with more nutritional deficiencies, metabolic problems, environmental pollution, unhealthy behaviors, and greater mental stress.
- The first 8 weeks are critical for organogenesis, and the window starts closing before the first antenatal visit.
- Interventions after the start of pregnancy have not yielded the required results.
- The developmental origin of adult disease has its origin in maternal health (nutrition, chronic diseases, infections, smoking, mental health, etc.).
- Pregnancy is a window to future chronic disease. Optimizing maternal health before pregnancy could decrease high-risk pregnancies and low birth weight.

The A to Z of preconception care includes



Screening for Peripheral Neuropathy in Prediabetes and Metabolic Syndrome

- Given the marked rise of peripheral neuropathy in prediabetes, further consideration of targeting screening in this population is required.
- Development of risk-stratification tools may facilitate earlier interventions.
- SUDOSCAN can be a useful and efficient method for both screening and monitoring the risk of peripheral neuropathy in high-risk individuals.



Dr Rafael Gabriel
Spain

Approach Based on "Subtype of T2DM"



Dr Piyush Desai
Surat

There is currently no international consensus on the subclassification of type 2 diabetes. As a result, clinical practice often distinguishes between obese and nonobese subtypes. However, the pathophysiological differences between these groups are still not fully understood.

Cluster analysis offers an alternative approach, classifying adult-onset diabetes mellitus into five clusters: severe insulin-resistant diabetes (SIRD), mild obesity-related diabetes (MOD), mild age-related diabetes (MARD), severe insulin-deficient diabetes (SIDD), and severe autoimmune diabetes (SAID).

In a study, 26.2% of Indians were diagnosed with SIDD, followed by 25.9% with MOD, 12.1% with SIRD, and 35.8% with MARD. The phenotypic characteristics of these clusters varied significantly among the Indian population, though gender and diabetes duration did not affect the stability of the clusters.

Key points to consider include:

- Compared to traditional classification, cluster-based subclassification better reflects the pathophysiology of type 2 diabetes and predicts future risk of complications and comorbidities.
- This approach may offer a more suitable tool for optimizing personalized therapeutic strategies.
- Over time, the leading causes of mortality in people with diabetes have shifted from vascular diseases to cancer and dementia, indicating the potential benefit of therapeutic strategies tailored to these emerging complications.

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DECODING DIET DILEMMAS

Millets- Superfood or Hype



Dr Havita Gupta
Nagpur

Millets, once considered “coarse grains,” have gained prominence as crucial parts of diabetes management due to their low glycemic index (GI) and high nutritional value. These ancient grains, such as finger millet (ragi), foxtail millet, and pearl millet (bajra), help control blood sugar levels and are a rich source of other micronutrients, such as iron, calcium, etc. Thus, they are a favorable food choice for those managing diabetes.

A meta-analysis of 99 studies has shown that long-term consumption of millets significantly reduces fasting blood glucose and postprandial blood glucose levels, contributing to better glycemic control. Additionally, millets have been found to lower HbA1c levels in pre-diabetic individuals, reducing the risk of developing type 2 diabetes.

The following study concluded that millet is beneficial in managing and reducing the risk of developing diabetes. Hence, the authors suggested that millet can be used to design appropriate meal plans for diabetic, prediabetic, and non-diabetic individuals as a preventive approach. Despite millet being a superfood, several points should be considered, such as:

- ▣ Moderation is the key to healthy eating.
- ▣ Millets do have an extraordinary nutritional value but try to include a variety of millets in the diet to ensure the adequacy of different nutrients.
- ▣ A balanced diet should provide not more than 45% calories from cereals and millet.

Different Types of Milks- Unravelling the Confusion



Dr Aditi Deshmane
Kolhapur

Milk has long been a dietary staple, but its various forms and impact on health, particularly for individuals with diabetes, have become confusing. Maintaining stable blood glucose levels is crucial for diabetes management, and milk’s carbohydrate content, primarily lactose, can complicate this effort.

The rise in plant-based milk options, such as almond, soy, and oat, has added to the confusion. Each type varies in carbohydrates, fat, glycemic index, and overall effects on blood sugar levels. Cow’s milk, often high in lactose and fat, can raise concerns about blood sugar spikes, while alternatives like almond milk are low in calories and carbohydrates but may lack protein. Meanwhile, soy milk offers a good balance of protein and fat with fewer carbohydrates. Similarly, rice milk provides less protein but double the carbohydrate compared to cow’s milk.

As a result, selecting the correct type of milk is a key dietary decision for managing blood glucose levels in diabetic patients. Some of the key considerations while choosing the milk are:

- ▣ Reduce saturated fat by selecting low-fat or skim milk, or try lactose-free and plant-based options.
- ▣ Keep milk intake moderate to manage calories and carbohydrates.
- ▣ Check blood sugar after drinking milk to gauge your tolerance.
- ▣ Consult a healthcare professional for personalized dietary advice.
- ▣ Always read labels to ensure milk alternatives fit your dietary preferences.

Oils- Which One to Choose?

Diabetes is associated with a 3 to 4-fold increase in the risk of coronary heart disease (CHD). Additionally, nearly all individuals with diabetes exhibit one or more lipid abnormalities. Since fat intake provides the second-highest source of calories after carbohydrates, it is crucial to manage fat consumption in diabetes.

Some simple tips to help manage fat intake in diabetic patients:

- ▣ Limit visible fat (vegetable oil) to ½ kg per person per month.
- ▣ Consume 3-4 teaspoons of oil and 1-1½ teaspoons of ghee per day.
- ▣ Use two or more vegetable oils or blended oils.
- ▣ Non-vegetarians should consume oily fish (250 grams per week).
- ▣ Vegetarians should include algae oils, walnuts, flaxseed, or chia seeds in their diet.
- ▣ Avoid using vanaspati as a cooking medium and limit processed foods containing trans fats.



Dr Niti Desai
Mumbai

Salt and Sugar- Getting the Facts Right

Excessive sugar and salt consumption are key contributors to global health challenges, including obesity, cardiovascular diseases, diabetes, and cognitive impairments. Processed foods and sugary beverages have drastically increased dietary sugar intake since the mid-20th century.

However, the 21st Century witnessed a moderate decline in added sugar intake. These declines in sugar were accompanied by only a minimal 1% increase in dietary fats. Despite the decline in global sugar consumption, it is still high. Sugar-sweetened beverages (SSBs) are still the main source of daily added sugar in most Western countries. Studies have established a strong link between SSBs and adverse health outcomes, such as liver dysfunction, telomere shortening, and increased cardiometabolic risks. Reducing sugar intake, especially from SSBs, has been found to improve weight management and reduce the risk of metabolic disorders.

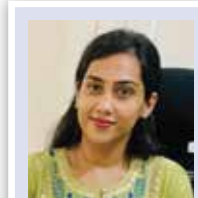
Similarly, excessive salt intake contributes to hypertension, autoimmune disorders, and inflammatory diseases like rheumatoid arthritis and multiple sclerosis. Reducing salt intake to below 5 grams per day, as recommended by the World Health Organization (WHO), could save millions of lives annually by mitigating the risks of cardiovascular diseases and cognitive decline. Always remember the *SALT REBOOTING* Mantra

- ▣ Control excess consumption
- ▣ Alter to healthy cooking methods
- ▣ Delete high-sodium foods



Dr Naaznin Husein
Mumbai

Snack Right in Diabetes



Dr Neha Pandit
Mumbai

The distinction between snacks and meals is fading, giving rise to the concept of “snackification.” For people with diabetes, snacking has become a crucial part of daily intake rather than just an occasional indulgence. With increasing diabetes rates in India, better-planned snacks are essential to help regulate blood sugar levels, prevent hypoglycemia, and add vital nutrients. Snacks can also help balance carb intake, which is often challenging to manage through lunch and dinner.

However, choosing the right snacks is vital.

- ▣ High-sugar, processed foods, refined carbs, and calorie-dense liquids like smoothies should be avoided.
- ▣ Instant foods marketed as healthy, such as masala oats or quick soups, often contain high sodium and preservatives, making them poor choices.
- ▣ Portion control is key to avoiding unnecessary calorie gains and blood sugar fluctuations.
- ▣ Patients should be educated on reading food labels and encouraged to diversify their snacks to ensure balanced nutrition.
- ▣ Dietitians and diabetes educators are critical in planning meals and snacks, emphasizing portion sizes, glycemic index, and personalized food responses.

Food Fraud- Get Label Wise

At first glance, a food label might seem like just a bunch of information, but it holds vital details that require careful attention. While checking the expiry date is common, many overlook the nutritional facts, serving sizes, and allergen warnings. For example, people often assume that the calories and nutrients listed apply to the entire packet, not realizing that these values are per serving. This confusion can lead to more calories, sugar, and fat consumption than expected.

Some of the tips to get label-wise include:

- ▣ Healthcare providers should educate patients on reading labels correctly, focusing on the serving size, ingredients, and nutritional content.
- ▣ Encouraging individuals to look for lower amounts of added sugars, sodium, and saturated fats while prioritizing proteins, dietary fiber, and essential micronutrients can improve their food choices.
- ▣ Additionally, allergen information, such as gluten or peanuts, must be closely examined, especially for those with specific dietary needs.

Ultimately, taking the time to read and understand food labels can empower individuals to make healthier decisions.



Dr Sheryl Salis
Mumbai

Risk Scores for Diabetes: A Global Review

The diabetes risk score is a predictive tool used to estimate the likelihood of undiagnosed diabetes mellitus or the risk of developing diabetes mellitus over a specified period. This assessment is derived from a combination of questionnaire-based risk factors and biological markers, though it is crucial to note that it is not a diagnostic test. One of the main challenges in utilizing diabetes risk scores is their validation across different countries, ethnic groups, and populations with diverse backgrounds. Additional challenges include accurately measuring obesity and other lifestyle factors.



Dr Knut Borch-Johnsen
Denmark

For effective use, the diabetes risk score must be validated and calibrated using local or comparable data. Moreover, ongoing validation and calibration are necessary after implementation. As a screening tool, it is essential that it be employed only where treatment options are available.

High-income countries benefit from diabetes risk scores for stepwise screening, as they enable targeted, cost-effective interventions where diagnostic testing is neither simple nor inexpensive. In contrast, low-income countries rely on these risk scores due to the limited availability and high relative cost of diagnostic testing. The scores are vital for guiding targeted interventions and promoting health in resource-limited settings.



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30TH AUG, 31ST AUG & 01ST SEP, 2024
THE WESTIN, POWAI LAKE, MUMBAI
Theme: Prevention of Diabetes and Prevention of Complications

T1 Diabetes Mellitus-Beyond Insulin

In type 1 diabetes mellitus, immune cells destroy beta cells in the pancreas, which in turn is unable to produce sufficient insulin. Therapeutic approaches involve preventing the autoimmune destruction of beta cells by modifying the immune system, introducing the insulin gene into non-beta cells, and generating surrogate beta cells from non-beta cells.



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While no single therapeutic agent provides a lasting halt to the immune attack, and remission of T1DM, the present treatment of T1DM comprises insulin. However, new possible treatments for T1DM comprise immunotherapy, gene therapy, cell encapsulation, and stem cell therapy. Currently, immunotherapy has a limited role in managing type 1 diabetes.

Over time, lifestyle management along with insulin and incretins successfully prevents beta cell autoimmunity (vaccines), halts beta cell attack, saves beta cells, restores beta cells, improves glucose control (artificial pancreas), restores beta cell function and arrests further beta cell attack and prevent, halt or reverse complications

From Numbers to Organs-Revolutionizing Hypertension Management in T2DM



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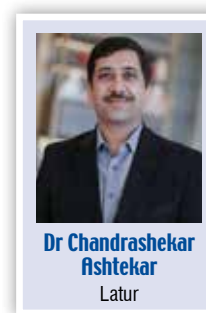
Hypertension leads to 57% of stroke deaths in India and 24% of CAD deaths in India, while it is seen in 65% of CKD patients in India. It is disheartening to note that 72% of hypertensive patients in India remain uncontrolled despite being on medication! Hypertension in the Indian population is marked with characteristic features including early onset in life/youngsters, clustering of multiple CV risk factors, significant seasonal variation of BP, rising average BP of the general population, low awareness, treatment and control rates, early end-organ damage seen due to poor control of BP, very high sympathetic activity, and challenges faced with patient adherence.

Combination therapy is preferred in hypertension management compared to monotherapy. The concept of initial combination therapy is not new because one of the first large clinical trials published in the late 1960s, the Veteran Affairs Cooperative Study, showed reduced morbidity with improved BP control using triple therapy combinations. Fixed dose combination is needed for convenience and compliance, better effect, fewer side-effects, and low cost.

Through meta-analysis studies, it has been shown that ACEI/ARB plus CCB therapy has a significantly better effect on maintaining eGFR/CrCl and reducing serum creatinine than ACEI/ARB plus diuretics. L-type CCB-amlodipine potentiates glomerular hypertension and thus may not be the right choice when reno-protection is the goal in hypertensive patients. Currently, India has its own guidelines for the management of hypertension in T2DM patients

Non-Diabetes Hypoglycemia

Non-diabetic hypoglycemia is relatively uncommon compared to hypoglycemia in patients with diabetes. In healthy individuals, counter-regulatory mechanisms prevent and correct hypoglycemia by reducing glucose uptake and enhancing hepatic glucose production, making it a diagnostic challenge for physicians.



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Hypoglycemic disorders are broadly classified into fasting vs. postprandial, clinically healthy vs. sick, and hyperinsulinemic vs. hypoinsulinemic categories. However, the mechanisms involved in postprandial hypoglycemia are less well-characterized than those in the fasting state. Evaluation begins with a detailed history, comprehensive medication review, clinical presentation, and thorough physical examination to guide the diagnostic approach in patients with documented hypoglycemia.

Critical points for managing non-diabetic hypoglycemia include:

- ▣ Generally, hypoglycemia in non-diabetic patients can be managed by consuming smaller, more frequent meals, including one or two snacks.
- ▣ Patients should be advised to avoid foods high in sugar, along with cessation of alcohol and smoking.
- ▣ Treatment depends on the underlying cause of hypoglycemia.
- ▣ Any medications causing hypoglycemia should be discontinued.
- ▣ Reactive hypoglycemia post-gastric bypass can be controlled through dietary modifications.
- ▣ If disabling hypoglycemia persists despite dietary and pharmacological therapy, surgical options like gastric reconstruction or subtotal pancreatectomy may be recommended.