RSSDI Indian Diabetes

EDUCATOR JOURNAL

Theme of the Month

Physical Well-being and Diabetes

To keep Members of Diabetes Care team abreast about
DSME/DSMS - (Diabetes Self management Education/Support) Concepts

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*DSME: Diabetes Self-Management Education, DSMS: Diabetes Self-Management Support

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FOREWORD

Research Society for the Study of Diabetes in India (RSSDI) founded by Prof. MMS Ahuja in the year 1972 is the biggest scientific association of healthcare professionals involved in promoting diabetes education and research in India. RSSDI is happy to collaborate with USV to support their endeavour to make India the 'Diabetes care capital of the world'. Through this collaboration, RSSDI would like to strengthen the cadre of diabetes educators by empowering them with recent updates in diabetes management helping bridge the gap between the physician and the patient. Today, the rule of 50% is prevailing in terms of awareness, detection, treatment and control in T2DM. Our aspiration is to achieve 90-90-90-90 i.e.90% of people with diabetes should be made aware, 90% should be detected, 90% of those detected should be treated, and 90% of those treated should reach their goals.

Indian Diabetes Educator Journal (IDEJ) is the first of its kind in India, and the longest running monthly diabetes educator journal since April 2015 and continues its endeavour to spread awareness, knowledge and enable healthcare teams to manage individuals with diabetes and empower them for self-care. RSSDI IDEJ will continue to keep the members of diabetes care team abreast with concepts of Diabetes Self-Management Education/Support (DSME/S) with a reach of 44000 doctors and diabetes educators digitally.

This month's theme, "Physical Well-being and Diabetes" emphasizes the crucial link between diabetes management and maintaining physical health. It explores how the condition affects physical health and highlights the importance of promoting a healthy lifestyle, physical activity, and proper medical care to improve physical wellness. This edition of IDEJ aims to inspire diabetes educators to implement strategies supporting the physical health of individuals living with diabetes. We hope this issue provides valuable insights to help educators promote physical wellness in diabetes care.

We sincerely thank our contributors for making this issue delightful reading for our readers. We dedicate this journal to all the healthcare professionals who are working relentlessly towards making "India–The Diabetes Care Capital of the World."

Sincere Regards,

Dr. Sanjay Agarwal
RSSDI Secretary

*DSME: Diabetes Self-Management Education, DSMS: Diabetes Self-Management Support

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of the month

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Consultant Physician and Diabetologist, Arpan Hospital, Anand

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Article: Sarcopenia: The Overlooked Comorbidity with Physical Health Implications

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MBBS, MD
Consultant Physician and Cardiologist, Shri Sai Clinic, Kumta

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Dr. Alpana Sowani

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Article: Before you Begin: Indications for Stress Testing in Pre-exercise Evaluation

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Article: Bharatanatyam: A Cultural Path to Diabetes Control

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Article: Frequently Asked Questions on Physical Well-being and Diabetes

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Physical well-being plays a crucial role in diabetes management, directly impacting both metabolic control and overall health. Diet and exercise are fundamental components in diabetes management, not only for managing blood glucose levels but also for promoting physical well-being. There is no universal diet for managing diabetes, but general guidelines recommend focusing on non-starchy vegetables, limiting added sugars and refined grains, and prioritizing whole foods over processed options. Personalized nutrition plans are crucial, considering factors like age, weight, health status, and individual food preferences. Several dietary patterns, such as moderate-carbohydrate diets, high protein and high fiber diets, Mediterranean diets, and plant-based approaches, have been shown to support effective diabetes management.

Protein is a crucial macronutrient that significantly impacts physical well-being. Many studies report Indians have inadequate protein intake, which combined with low muscle mass, results in poor stamina and physical health. In individuals with diabetes, conditions such as sarcopenia (reduced muscle strength and muscle mass) and obesity (increased body fat) are also common, further exacerbating physical limitations and reducing overall functional capacity. Hence, dietary modifications emphasize adequate protein intake, especially from high biological value sources of protein, and if required, diabetes-specific protein supplements are suggested. Increasing protein intake by 5%–10% in lieu of carbohydrates (up to 1 g/kg body weight per day) is advised for glucose control and up to 1–1.2 g/kg body weight for synthesis of muscle mass. Additionally, regular physical activity offers comprehensive benefits by supporting muscle mass synthesis, preserving existing muscle, facilitating fat loss, and improving blood glucose control. It is recommended that most individuals with diabetes engage in at least 150 minutes of moderate to vigorous exercise per week, spread over at least 3 days, in addition to incorporating resistance exercises twice a week to support muscle mass synthesis.

Another important aspect of physical well-being in diabetes is sleep quality. Poor sleep has been linked to insulin resistance, weight gain, and difficulty managing blood glucose levels. Individuals with diabetes should aim for an average of 7 hours of restful sleep per night, as proper sleep supports hormonal balance and enhances the body's ability to regulate blood glucose levels. Poor sleep also disrupts an individual's exercise routine. When sleep quality is compromised, individuals may experience increased fatigue, decreased motivation, and diminished physical performance, making it challenging to adhere to their planned exercise schedules. This lack of energy can lead to missed workouts, reducing the overall effectiveness of an exercise program designed to manage diabetes. Additionally, inadequate sleep can impair recovery from physical activity, as the body needs sufficient rest to repair muscle tissues and restore energy levels. Over time, this can lead to decreased physical stamina, making it harder to engage in regular exercise. To improve sleep quality, individuals with diabetes should consider establishing a consistent sleep routine that includes going to bed and waking up at the same time every day. Creating a relaxing bedtime environment, free from distractions such as electronic devices, can also promote better sleep hygiene.

Thus, prioritizing physical well-being is integral to effective diabetes management and overall health. By focusing on a holistic approach that includes balanced nutrition, regular physical activity, and adequate sleep, individuals with diabetes can significantly improve their quality of life. Ultimately, a commitment to physical well-being empowers individuals to take control of their health, prevent complications, and lead more active, fulfilling lives. By fostering a lifestyle centered around physical well-being, individuals with diabetes can navigate their condition with confidence and optimism, achieving better health outcomes and a greater sense of well-being.

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Sarcopenia: The Overlooked Comorbidity with Physical Health Implications

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Sarcopenia, defined as the progressive loss of skeletal muscle mass and function, is increasingly recognized as a significant comorbidity affecting the health and quality of life of older adults. Its prevalence varies widely, between 5% and 50%, depending on factors such as age, gender, and the presence of chronic diseases. This condition not only contributes to physical disability but also has profound implications for healthcare systems due to its association with increased hospitalization, institutionalization, and mortality rates.

The impact of sarcopenia on health outcomes

Sarcopenia is particularly prevalent among older adults, with studies indicating rates as high as 40% in hospitalized patients. The condition is linked to a range of adverse health outcomes, including falls, fractures, and loss of independence. The risk of falls is notably elevated, with sarcopenic individuals exhibiting a fourfold increase in fall risk compared to their non-sarcopenic counterparts. This heightened risk of falls can lead to severe injuries, further complicating health management in older populations.

Moreover, sarcopenia is associated with a range of chronic diseases, including cardiovascular disease, diabetes, and renal impairment. The interplay between these conditions exacerbates the overall health decline in affected individuals. For instance, sarcopenia can lead to increased adiposity and insulin resistance, creating a vicious cycle that further deteriorates muscle mass and function. This relationship underscores the need for comprehensive assessments of sarcopenia in patients with chronic illnesses to improve health outcomes.

Public health implications

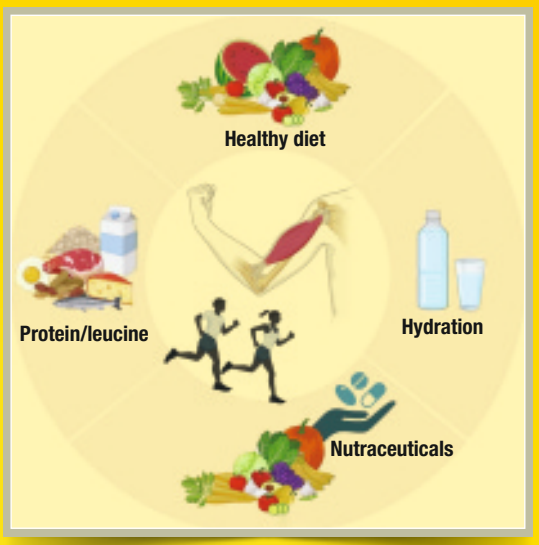
The implications of sarcopenia extend beyond individual health, posing significant challenges for public health systems. As the global population ages, the burden of sarcopenia is expected to rise, leading to increased healthcare costs associated with managing its consequences. Sarcopenia contributes to higher rates of hospitalization and long-term care admission, which places additional strain on healthcare resources.

Furthermore, the lack of standardized diagnostic criteria for sarcopenia complicates its identification and management. Current assessments often

rely on varying definitions, which can lead to underdiagnosis or misdiagnosis. This inconsistency hampers the development of targeted interventions and treatments, highlighting the urgent need for a unified approach to diagnosing and managing sarcopenia.

Prevention and management strategies

Preventive strategies focusing on physical activity and nutrition are critical in addressing sarcopenia. Regular resistance training and aerobic exercises have been shown to enhance muscle mass and strength, while adequate protein intake plays a vital role in muscle health. Nutritional interventions, including supplementation with vitamin D and protein, can also be beneficial for older adults at risk of sarcopenia.



Healthcare providers are encouraged to incorporate routine screenings for sarcopenia in older patients, particularly those with chronic diseases. Early detection allows for timely interventions that can mitigate the progression of muscle loss and improve overall health outcomes. Additionally, fostering awareness among patients and caregivers about the importance of maintaining physical activity and proper nutrition can empower individuals to take proactive steps in managing their health.

By prioritizing awareness and intervention strategies, healthcare systems can better address the challenges posed by sarcopenia, ultimately improving thequality of life for aging populations.

Key points

- Sarcopenia is the loss of muscle mass and function, affecting 5%–50% of older adults.
- It increases the risk of falls, fractures, and loss of independence.
- It is associated with conditions like cardiovascular disease and diabetes, worsening overall health.
- Rising prevalence increases healthcare costs due to hospitalizations and long-term care.
- Inconsistent criteria complicate diagnosis and management.
- Regular exercise, protein intake, and supplementation help manage sarcopenia.
- Early detection and targeted strategies are essential for improving outcomes for older adults.

Resources:

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Diabetes Remission: What Every Educator Needs to Know

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Type 2 diabetes mellitus (T2DM) has been traditionally viewed as a chronic, lifelong condition requiring ongoing treatment. However, recent research has elucidated that remission is possible for certain individuals through targeted interventions, especially dietary modifications and weight loss.

The American Diabetes Association (ADA) defines "remission" as achieving a glycated hemoglobin (HbA1c) below 6.5% or fasting glucose under 126 mg/dL for at least three months without medication. "Partial remission" is an HbA1c below 6.5% or fasting glucose between 100–125 mg/dL for over a year without medication, while "complete remission" is HbA1c below 5.6% or fasting glucose under 100 mg/dL. "Prolonged remission" occurs when these criteria are sustained for five or more years.

Role of diet in diabetes remission

Both low-calorie diets (LCDs) and low-carbohydrate diets (LCBDs) are actionable strategies for the remission of T2DM.

- LCDs, specifically very-low-calorie diets (VLCDs) providing approximately 400–800 kcal/day for a period of 12–16 weeks, promote significant weight loss, typically over 15 kg. The twin cycle hypothesis implies that excess caloric intake causes fat buildup in the liver and pancreas, impairing insulin secretion and increasing insulin resistance. By substantially lowering the calorie intake, LCDs lower liver and pancreatic fat, which revives insulin sensitivity and beta-cell function. This enhancement in metabolic processes allows the body to better regulate blood glucose, leading to the remission of type 2 diabetes.

- LCBDs, providing less than 26% of energy coming from carbohydrates or less than 130 g of carbohydrates per day, lowers insulin secretion, which diminishes fat storage and improves glucose control without necessarily relying on weight loss. LCBDs can achieve remission through reduced postprandial glucose spikes and improved insulin sensitivity. However, LCBD-induced remission requires ongoing carbohydrate restriction to maintain, posing sustainability challenges.

While both diets offer benefits, long-term adherence is key, and relapse is common if dietary restrictions are not maintained. Regular follow-up and multidisciplinary support are essential for long-term success.

When and for whom can we consider remission?

Ideal candidates for dietary interventions in T2DM are generally those diagnosed within 2 to 6 years, especially males with good glycemic control, minimal medication use, effective beta-cell function, low visceral fat, and strong mental health. The **ABCDEF** formula helps gauge remission potential: Lower Hb**A**1c levels, significant **B**ody weight loss (15 kg or more), better **C**-peptide levels, a shorter **D**uration of diabetes (less than 6 years), high **E**nthusiasm, and regular **F**ollow-ups are all positive indicators.

While diet plays a pivotal role in remission, combining dietary changes with other lifestyle interventions improves outcomes. Physical activity, even in moderate amounts, improves insulin sensitivity and aids in weight maintenance. Moreover, cognitive-behavioral interventions that promote behavior change, stress reduction, and improved sleep patterns can further optimize remission potential. Future research should focus on the effectiveness of these interventions beyond 2 years, especially for ethnically diverse populations like Asian Indians who may have different obesity profiles.

Key points

- **Remission definition:** ADA defines diabetes remission by HbA1c <6.5% or fasting glucose under 126 mg/dL for at least three months without medication.
- **Dietary strategies:** LCDs and LCBDs can achieve remission by reducing fat and managing glucose levels.
- **Sustainability:** Long-term success requires adherence; LCDs lead to weight loss, while LCBDs necessitate ongoing carbohydrate restriction.
- **Ideal candidates:** Best suited are those with recent diagnoses, with good control, minimal medication, effective beta-cell function, and high motivation.
- **Additional support:** Combining diet with physical activity and behavioral changes improves outcomes; future research should focus on long-term effects in diverse populations.

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Making Waves: Aquatic Exercise as a Gym-free Option

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Aquatic exercise presents an ideal workout option for individuals with musculoskeletal impairments, cardiovascular disease (CVD), or conditions that make gym workouts risky or uncomfortable. The buoyancy of water reduces the impact on joints, easing pain and discomfort for those with arthritis, obesity, or other mobility issues.

Hydrostatic pressure from water immersion helps alleviate swelling and supports cardiovascular health by improving circulation and heart function without the strain of high-intensity land exercises.

For people with diabetes and CVD, water-based exercises offer a gentler way to improve cardiac output and vascular health. Upright water immersion increases central blood volume and reduces blood pressure, making aquatic activities safer for individuals who may struggle with high-intensity workouts. Studies suggest that this type of exercise can facilitate vascular adaptations, improving endothelial function, a critical factor in reducing cardiovascular risks for people with diabetes.

In essence, aquatic exercises enable a comprehensive fitness routine that strengthens muscles, improves endurance, and regulates blood glucose–all while providing a safe, low-impact environment. For those who cannot tolerate the weight-bearing nature of traditional workouts, water-based exercises offer a gym-free solution that promotes overall health without the associated pain or risks of land-based activities.

Key points

- **Joint-friendly:** Water's buoyancy reduces joint strain, making aquatic exercise ideal for those with arthritis, obesity, or musculoskeletal impairments.
- **Cardiovascular health:** Water-based activities enhance blood flow and cardiac output, improving heart function for individuals with CVD.
- **Safe and low-impact:** Aquatic exercises are a safer alternative for those who cannot tolerate traditional gym workouts.
- **Effective for diabetes:** It supports better blood glucose control, muscle strength, and vascular health without the discomfort of land-based exercise.

Resource:

- Scheer AS, Naylor LH, Gan SK, *et al.* The Effects of Water-based Exercise Training in People with Type 2 Diabetes. *Med Sci Sports Exerc.* 2020;52(2):417–24. doi:10.1249/MSS.0000000000002133

Interview with Dr. R. M. Anjana

Dr. R. M. Anjana

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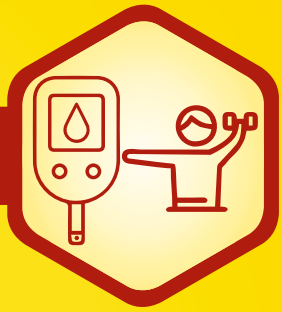
Consultant Diabetologist and Managing Director, Dr. Mohan's Diabetes Specialities Centre and President, Madras Diabetes Research Foundation, Chennai

Dr. R. M. Anjana is a distinguished diabetologist and the managing director of Dr. Mohan's Diabetes Specialities Centre, a premier diabetes care network in India. She is also the president of the Madras Diabetes Research Foundation, an ICMR Centre for Advanced Research on Diabetes. Her main research areas focus on the prevention of diabetes, epidemiology, physical activity, translational research, and metagenomics. Her groundbreaking work in these fields has made significant contributions to diabetes care, prevention strategies, and understanding the genetic factors influencing diabetes. With over 250 published papers, she is a respected voice in global diabetes research and has received numerous accolades. Through her leadership, she has greatly impacted diabetes management and research in India.

Physical Well-being and Diabetes



1. How important is regular physical activity for individuals with diabetes, and what specific types of exercises do you recommend?

Ans. Physical activity is one of the four pillars of diabetes management, alongside dietary modifications, medications and/or insulin, and regular monitoring. Studies have shown that dietary modifications and physical activity alone can prevent 50%–60% of diabetes cases. Managing diabetes is crucial for reducing mortality, preventing premature death, and promoting overall well-being. It is recommended that people with diabetes engage in at least 150 minutes of moderate-to-vigorous intensity exercise per week, spread over at least three days (up to 300 minutes). Additionally, resistance exercises two to three times per week help build muscle mass, which further facilitates glucose control and reduces the risk of complications. Exercise regimens need to be carefully regulated for pregnant women with diabetes and elderly individuals. In the elderly, addressing frailty, vision, and balance issues is important when prescribing appropriate exercises.

2. What advice would you give to individuals with diabetes having joint pain or other physical limitations but still wish to maintain an active lifestyle?

Ans. Many individuals with diabetes are obese or overweight and often experience joint pain, which limits their ability to engage in physical activity. In India, there is a high prevalence of sarcopenia (low muscle mass and poor muscle strength), particularly among the elderly and those with diabetes, with women being disproportionately affected. For such individuals, initiating an exercise routine can be challenging, but starting slowly is key. Walking at a comfortable pace is a great way to begin, with gradual increases in duration and intensity as stamina improves. Even moderate walking can help reduce muscle stiffness, improve joint mobility, and enhance blood circulation, all of which contribute to better glucose control.

For individuals with more severe joint and pelvic issues, alternative low-impact exercises can be introduced. Seated exercises, such as chair aerobics or resistance band routines, can strengthen muscles and improve flexibility without straining the joints. Off-loading exercises, like swimming, water aerobics, or cycling, are particularly beneficial because they reduce pressure on weight-bearing joints while still providing cardiovascular and strength-building benefits. The buoyancy of water, for instance, helps support the body during movement, making aquatic exercises ideal for those with significant joint pain.

3. What advice would you give someone who is newly diagnosed with diabetes on integrating fitness into their daily routine, especially if they have not been physically active before?

Ans. If you're newly diagnosed with diabetes and haven't been active before, start slow and be consistent. Begin with low-impact exercises like walking or light stretching for 10–15 minutes a day, gradually increasing to 30 minutes. For elderly individuals, monthly adjustments can be helpful. Consistency is more beneficial than intense, irregular activities–small steps over time lead to better fitness and diabetes management. Choose activities you enjoy, as this increases the chances of sticking to your routine. Monitor your body's response, and if unsure, consult a healthcare provider to create a safe exercise plan.

4. How can someone newly diagnosed with diabetes transition to a healthier diet without feeling overwhelmed by restrictions?

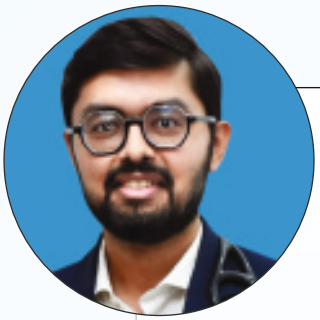
Ans. Transitioning to a healthier diet after a diabetes diagnosis can be manageable by focusing on small, sustainable changes rather than feeling overwhelmed by restrictions. In India, where 60%–70% of our energy intake comes from carbohydrates, studies have shown that reducing carbohydrate intake to 50% and replacing them with protein-rich foods like curd and buttermilk, as well as fiber-rich foods such as vegetables, salads, and soups, can significantly improve blood

glucose control. A balanced diet providing 20%–25% of energy from protein and 25%–30% from fat–focusing on healthy fats such as monounsaturated fats and omega-3s–along with adequate hydration, is ideal for managing glucose levels. The healthy plate concept can also be a helpful guide: Half the plate should consist of fiber-rich, non-starchy vegetables, a quarter with carbohydrate sources like whole grains, millets, and the remaining quarter with protein sources such as curd, buttermilk, dals, and pulses, etc. This balanced approach ensures better blood sugar control while providing a variety of nutrients.

5. What strategies can people with diabetes use to stay motivated to maintain an active lifestyle, especially when they feel fatigued or unwell?

Ans. Motivation can be challenging, and it is essential to remember that "different strokes for different folks"—what works for one person may not necessarily work for another. The key is to identify the approach that resonates with you. Grant yourself the invaluable gift of health by making consistent, mindful efforts toward better nutrition and physical activity. These actions not only enhance diabetes management but also contribute to overall well-being. Every effort, no matter how small, is a significant step toward a healthier and more fulfilling life. For some individuals, a competitive approach can be highly motivating, such as tracking step counts or using fitness apps that monitor progress and give reminders, fostering a sense of achievement and accountability while promoting a more active lifestyle. Others may find that social networking plays a significant role in maintaining motivation. Having a workout buddy, whether a spouse, friend, or even children, can foster accountability and encouragement. In particular, family members often serve as excellent fitness partners for women, offering support and companionship on the journey to better health. A culturally acceptable dance/fitness intervention called THANDAV (Taking High-Intensity Interval Training [HIIT] ANd Dance to Adolescents for Victory over non-communicable diseases [NCDs]) was developed to address barriers to physical activity among adolescent girls and women in India. THANDAV consists of a 10-minute routine incorporating high- and low-intensity dance steps. Many individuals find THANDAV to be an enjoyable and socially acceptable form of physical activity. This novel approach may improve cardiorespiratory fitness, promote glucose control, and prevent NCDs. Identifying the most effective source of motivation is key to ensuring long-term commitment to a healthier lifestyle.

Optimizing Insulin Use for Effective Diabetes Care: A Doctor's Experience on the MyCare Patient Support Program



Dr. Piyush Lodha

MD (Medicine), DM (Endocrinology)
Consultant Endocrinologist and Diabetologist

A 52-year-old female with type 2 diabetes was managed by Dr. Piyush Lodha.

Here's what Dr. Piyush Lodha has to say:

A 52-year-old female with type 2 diabetes consulted for uncontrolled blood glucose levels. She was taking oral antidiabetic medications. Due to persistently high blood glucose levels, she was started on insulin. In subsequent follow-ups, it was observed that despite taking insulin, her blood glucose levels remained uncontrolled. She reported elevated fasting blood glucose levels of 170 mg/dL and postprandial blood glucose levels of 385 mg/dL. A detailed history revealed that she was not administering insulin on time and had an inappropriate eating pattern.

For further counseling, I sent her to MyCare Diabetes Educator (MDE), Ms. Yogita Kadam, as she was not following appropriate insulin injection techniques and had an unhealthy eating pattern. Ms. Yogita played a crucial role in educating her on proper insulin management. She emphasized the importance of timely insulin administration and demonstrated correct injection techniques, including site rotation to prevent lipohypertrophy. Ms. Yogita also provided guidance on a customized healthy eating pattern to help control glucose levels and prevent hypoglycemia, given her erratic eating habits. She was educated on incorporating low glycemic index carbohydrates and ensuring adequate intake of protein and fiber in every meal to stabilize blood glucose levels.

She was instructed to regularly monitor her blood glucose levels, keep detailed records, and report any significant changes. With these modifications and consistent self-monitoring, her blood glucose levels gradually improved and were brought under control. This comprehensive approach not only stabilized her blood glucose levels but also empowered her to manage diabetes more effectively moving forward.

Ms. Yogita Kadam

NDEP and T1DE Certified Diabetes Educator

Here's what MDE Yogita Kadam has to say:

Through targeted education on insulin timing, correct injection techniques, and the importance of site rotation along with dietary counseling, the blood glucose levels of people with diabetes can significantly improve.

MyCARE

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20 weeks personalised and hand-holding support for people with diabetes initiated with Insulin.
Aims to empower PWD* with information and knowledge they need to
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Abridged Prescribing Information

UDAPA-TRIO Forte, UDAPA-TRIO, Dapagliflozin, Sitagliptin & Metformin Hydrochloride Extended Release Tablets

Composition: Dapagliflozin 10 mg, Sitagliptin 100 mg & Metformin Hydrochloride Extended Release 1000 mg tablets Dapagliflozin propanediol monohydrate eq. To Dapagliflozin 10 mg Sitagliptin Phosphate Monohydrate IP Eq. Sitagliptin 100 mg Metformin Hydrochloride IP (as Extended Release) 1000 mg Dapagliflozin 10 mg, Sitagliptin 100 mg & Metformin Hydrochloride Extended Release 1000 mg tablets Dapagliflozin propanediol monohydrate eq. To Dapagliflozin 10 mg Sitagliptin Phosphate Monohydrate IP Eq. Sitagliptin 100 mg Metformin Hydrochloride IP (as Extended Release) 500 mg **Indication:** It is indicated as an adjunct to diet and exercise to improve Glycemic Control adults with type 2 diabetes mellitus **Recommended Dosage:** As directed by the physician. **Method of Administration:** Oral **Adverse Reactions:** Most common adverse reactions reported are: Dapagliflozin - Female genital mycotic infections, Nasopharyngitis, Urinary tract infections. Sitagliptin - Upper respiratory tract infection, nasopharyngitis and headache. Metformin - Diarrhea, nausea/vomiting, flatulence, asthenia, indigestion, abdominal discomfort, and headache. Warnings and Precautions: Dapagliflozin: Volume depletion; Ketoacidosis in patients with Diabetes Mellitus; Urosepsis and Pyelonephritis; Hypoglycemia; Genital mycotic infections Sitagliptin: General: Sitagliptin should not be used in patients with type 1 diabetes or for the treatment of Diabetic Ketoacidosis. Acute pancreatitis: Hypoglycemia is used in combinations when combined with other anti-hyperglycemic medicinal product; Renal impairment: Hypersensitivity reactions including anaphylaxis, angioedema, and exfoliative skin conditions - Steven johnson syndrome; Bullous pemphigoid Metformin Hydrochloride: Lactic acidosis; In case of dehydration (severe diarrhea or vomiting, fever or reduced fluid intake), metformin should be temporarily discontinued and contact with a healthcare professional is recommended. **Contraindications:** Hypersensitivity to the active substance of Dapagliflozin, Sitagliptin & Metformin or to any of the excipients listed. Any type of acute metabolic acidosis (such as lactic acidosis, diabetic ketoacidosis). Diabetic pre-coma; Severe renal failure (eGFR < 30ml/min); Acute conditions with the potential to alter renal function such as: Dehydration, Severe infection, Shock; Acute or chronic disease which may cause tissue hypoxia such as: Cardiac or respiratory failure, Recent myocardial infarction, Shock, Renal Impairment, Acute intoxication, Alcoholism. **Use in special population:** Pregnant women: Due to lack of human data, drugs should not be used during pregnancy. Lactating women: It should not be used during breastfeeding. Pediatric patients: The safety and efficacy of drugs has not yet been established. No data is available. Geriatric Patients: In patients >65 years, it should be used with caution as age increases. For Additional Information/full prescribing information, please write to us: USV Private Limited, Arvind Vithal Gandhi Chowk, B.S.D Marg, Govandi, Mumbai - 400088 Last updated on 02/04/2024.

Reference :

1. Böhm AK et al. Regimen simplification and medication adherence: Fixed-dose versus loose-dose combination therapy for type 2 diabetes. PloS one. 2021 May 4;16(5):e0250993; **2.** DAPAGLIFLOZIN, SITAGLIPTIN, AND METFORMIN ER FDC IN INDIAN TYPE 2 DIABETES MELLITUS PATIENTS WITH INADEQUATE GLYCEMIC CONTROL ON METFORMIN MONOTHERAPY: A MULTICENTER RANDOMIZED Double- Blind Parallel Study" oral paper presented in Diabetes India – Jan 2024; **3.** McMurray JJ,et al. Dapagliflozin in patients with heart failure and reduced ejection fraction. New England Journal of Medicine. 2019 Nov;381(21):1995-2008; **4.** Wiviott SD et al. Dapagliflozin and cardiovascular outcomes in type 2 diabetes. New England Journal of Medicine. 2019 Jan 24;380(4):347-57; **5.** Green JB, Bethel MA, Armstrong PW, Buse JB, Engel SS, Garg J, Josse R, Kaufman KD, Koglin J, Korn S, Lachin JM. Effect of sitagliptin on cardiovascular outcomes in type 2 diabetes. New England Journal of Medicine. 2015 Jul;373(3):232-42; **6.** Benes J, Kotric M, Kroupona K, Wohlfahrt P, Kovar J, Franekova J, Hegarova M, Hoskova L, Hoskova E, Pelikanova T, Jarolim P. Metformin treatment is associated with improved outcome in patients with diabetes and advanced heart failure (HFrEF). Scientific Reports. 2022 Jul;12(1):13038; **7.** Heerspink HJ et al. Dapagliflozin in patients with chronic kidney disease. New England Journal of Medicine. 2020 Oct 8;383(15):1436-46; **8.** Tanner C et al.. Metformin: time to review its role and safety in chronic kidney disease. Medical Journal of Australia. 2019 Jul;211(1):37-42.

USV Private Limited Corvette Team

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Ref: [Ravikumar et al Cardiology and Cardiovascular Medicine. 2023; 7: 141-146.]

Abridged Prescribing Information

Composition: Each Film Coated Tablet Contains: Dapagliflozin Propanediol Monohydrate eq. to Dapagliflozin (10 mg) + Sitagliptin Phosphate Monohydrate IP eq. to Sitagliptin (100 mg). **Indications:** For the treatment of type 2 diabetes mellitus inadequately controlled on Metformin monotherapy. Recommended Dosage: As directed by the physician. **Method of Administration:** Oral. **Adverse Reactions:** Female genital mycotic infections, nasopharyngitis, and urinary tract infections are most common adverse reactions associated with dapagliflozin. While, upper respiratory tract infection, nasopharyngitis, and headache are most common adverse reactions associated with sitagliptin. **Warnings and Precautions: Risk of Volume Depletion in Elderly -** Before initiating Dapagliflozin and Sitagliptin, assess volume status and renal function in the elderly, patients with renal impairment or low systolic blood pressure, and in patients on diuretics. Monitor for signs and symptoms during therapy. **Ketoacidosis in Patients with Diabetes Mellitus -** Assess patients who present with signs and symptoms of metabolic acidosis for ketoacidosis regardless of blood glucose level. If suspected, discontinue UDAPA®-S, evaluate and treat promptly. Before initiating UDAPA®-S, consider risk factors for ketoacidosis. Patients on UDAPA®-S may require monitoring and temporary discontinuation of therapy in clinical situations known to predispose to ketoacidosis. **Urosepsis and Pyelonephritis -** Evaluate for signs and symptoms of urinary tract infections and treat promptly, if indicated. Hypoglycemia - Consider a lower dose of insulin or the insulin secretagogue to reduce the risk of hypoglycemia when used in combination with Dapagliflozin and Sitagliptin. **Necrotizing Fasciitis of the Perineum -** Serious, life-threatening cases have occurred in patients with diabetes, both females and males. Assess patients presenting with pain or tenderness, erythema, or swelling in the genital or perianal area, along with fever or malaise. If suspected, institute prompt treatment. **Genital Mycotic Infections -** Monitor and treat if indicated. **Contraindications:** Patients with a history of hypersensitivity reaction to the active substance or to any of the excipients. In patients with varying degrees of renal impairment, adjusting the dosage is advised based on the severity of the condition. Prohibited medications include strong CYP2C8 inhibitors/ inducers, drugs increasing/decreasing hypoglycemic action, drugs known to cause QT prolongation, or other oral hypoglycemic agents other than study medications.

For Additional Information/Full prescribing information, please write to us:
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Navigating Exercise Precautions for Common Comorbid Conditions

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Exercise plays a key role in managing type 2 diabetes, helping to improve blood glucose control effectively. However, when comorbid conditions like cardiovascular disease, neuropathy, or retinopathy are present, tailored adjustments are crucial to ensure safety and effectiveness.

Below are exercise precautions for specific health complications

Health complication	Precautions
Autonomic neuropathy	- Monitor for hypoglycemia, irregular blood pressure, and heart rate fluctuations. - Use ratings of perceived exertion (RPE) to measure intensity, regulate body temperature, and avoid dehydration.
Peripheral neuropathy	- Limit high-impact exercises like hiking, jogging, or walking on uneven surfaces to avoid foot trauma; opt for low-impact activities like cycling or swimming, but avoid water exercises in the case of unhealed surface foot ulcers. - Daily foot inspection is necessary for trauma and redness; choose well-fitting shoes and moisture-wicking socks. - Avoid exercises that challenge balance.
Diabetic retinopathy	- Avoid strenuous exercise, exercises involving heavy lifting or holding breath while lifting or pushing, and high-impact activities that cause jarring, along with head-down activities (head lower than waist) like some yoga asanas or gymnastics. - Use RPE (10–12 on a 6–20 scale) to monitor intensity if no stress test is available. - Consult an ophthalmologist for personalized advice.
Diabetic kidney disease	- Avoid exercises that significantly raise blood pressure, like weight lifting or intense aerobic workouts like skipping or running. - Light to moderate exercise is possible during dialysis if electrolyte levels are stable.
Hypertension	- Heavy lifting and breath-holding should be avoided. - Engage in low to moderate-intensity activities like walking or cycling, following blood pressure guidelines.

By adapting exercise routines to accommodate these conditions, physical activity can remain a safe and beneficial component of diabetes management.

Resources:

- Kanaley JA, Colberg SR, Corcoran MH, *et al.* Exercise/Physical Activity in Individuals with Type 2 Diabetes: A Consensus Statement from the American College of Sports Medicine. *Med Sci Sports Exerc.* 2022;54(2):353–68. doi:10.1249/MSS.0000000000002800

Trending Diets: Do's and Don'ts in Diabetes

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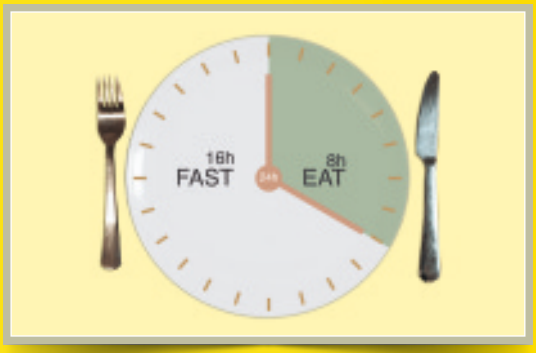
The primary goal in diabetes management is to maintain blood glucose levels close to normal without causing hypoglycemia. The best way to achieve it is through lifestyle modifications like dietary changes, weight loss, exercise, and pharmacotherapy. Among these, diet and exercise are the prime and critical pillars of diabetes control. Over the years, several diets have gained popularity for managing diabetes; the key areas of focus are blood glucose regulation, weight loss, and overall health benefits and improvement. Amid the rise of popular diets, such as ketogenic and intermittent fasting (IF), individuals with diabetes often find themselves asking, 'Which diet is the best suited for my condition? While some dietary trends offer significant health benefits, others may present hidden risks that warrant careful consideration. Here, we shed light on some of the trending diets.

Trending diets

Intermittent fasting (IF)



IF has become popular as a dietary approach and includes daily fasts of up to 16 hours, 24-hour fasts on alternate days, or 24-hour fasts twice a week on non-consecutive days. Typically, the fasting durations range from 12 to 20 hours. IF can be as effective as calorie restriction for weight management, improving overall metabolic health, enhancing glucose regulation, reducing inflammation, and promoting cellular repair. It is also known to benefit heart and brain health. However, IF may lead to nutrient deficiencies, worsen disordered eating behaviors, and cause side effects like fatigue, headache, and irritability, especially during the initial phase or with prolonged fasting, which can impact adherence. Individuals with diabetes should undertake IF only under the supervision of a qualified healthcare professional and a dietitian. They will provide guidance on necessary pharmacotherapy adjustments, ensure frequent glucose monitoring to prevent hypoglycemia and ensure adequate intake of all essential nutrients and hydration.

Low carbohydrate diet

Interest in low-carbohydrate diets (LCBDs) for managing type 2 diabetes mellitus (T2DM) has gained popularity in the last two decades despite this approach not being new. LCBDs typically focus on restricting carbohydrate intake to less than 26% of total energy or <130 g per day, by replacing cereals with protein-rich options like (e.g., meat, eggs, fish, nuts, paneer, soya, curd, etc.) and non-starchy vegetables (e.g., leafy greens). This diet helps reduce blood glucose levels, promotes weight loss, and decreases associated health

risks. While it helps improve blood glucose control, it paves the way for an increased risk of hypoglycemia and dyslipidemia due to the associated high consumption of fat. Other potential downsides include sustainability challenges and the risk of nutrient deficiencies.

However, evidence for the effectiveness of low-carb diets in type 1 diabetes mellitus (T1DM) is limited. While some individuals may successfully combine a low-carb regimen with careful insulin management, strict adherence can be challenging, and potential adverse health effects are a concern.

Ketogenic diet

A ketogenic diet is characterized by very low carbohydrate intake (5%–10% of total daily calories or <20–50 g per day), moderate protein, and high fat, designed to induce ketosis, where ketone bodies become an alternative energy source for cells, particularly neurons. Urinary ketone levels are commonly used to assess adherence to the diet. While ketogenic diets can improve glycemic control in children and adolescents with T1DM, they are typically avoided due to risks of malnutrition, impaired growth, poor cognition, and various health issues, including hyperlipidemia and hypoglycemia. Sustained ketosis poses additional risks in T1DM due to metabolic irregularities, increasing the likelihood of complications related to oxidative stress and inflammation. In T2DM, a ketogenic diet may improve and may help achieve good glycemic control, but it carries long-term risks, including dyslipidemia, cardiovascular disease, and nutrient deficiencies caused by high fat intake. Another important issue with compliance to low-carbohydrate and ketogenic diets is their sustainability in a country like India, where carbohydrate intake is high and is the prime foundation and source of energy in Indian diets.

Mediterranean Diet

The Mediterranean diet is a plant-based eating pattern that includes a variety of whole grains, legumes, fresh fruits, vegetables, nuts, seeds, extra-virgin olive oil, seafood (fatty fish), poultry, and dairy foods in moderation. Red and processed meats, along with sweets, are advocated and included in very small amounts. This diet is rich in fiber, healthy fats (monounsaturated fatty acid [MUFA] and polyunsaturated fatty acid [PUFA]), probiotics, low-glycemic foods, vitamins, and antioxidants. It supports a diverse gut microbiome, reduces oxidative stress, lowers LDL-cholesterol and inflammation, facilitating good glycemic control and promoting heart health.

The Paleolithic diet

The Paleolithic diet, or Paleo diet, also known as the caveman diet, Stone Age diet, or the hunter-gatherer diet, is an eating pattern focused on foods available during the Paleolithic era. It typically includes fruits, vegetables, nuts, and meat and excludes processed foods, sugar, dairy foods, grains, legumes, alcohol, and refined oils. The diet mirrors what humans ate before the advent of agriculture, avoiding foods introduced after the Neolithic revolution. While variations exist, common elements are vegetables, lean meats, nuts, eggs, and fruits, with an emphasis on whole, unprocessed foods. Although limited research exists on its long-term effects, preliminary studies suggest that the paleo diet may improve metabolic and cardiovascular health. However, the evidence is

not yet sufficient to make broad recommendations. Since it restricts the intake of grains and legumes, it tends to be lower in carbohydrates and may increase the risk of hypoglycemia.

Each diet offers unique benefits and potential risks for individuals with diabetes. Before embarking on any new dietary regimen, it is important to discuss it with a healthcare professional and dietitian to ensure that the chosen diet aligns with individual health goals, metabolic profile, socio-economic conditions, local availability, and meets all nutritional requirements. A healthcare professional can provide guidance based on an individual's medical history, current medications, and lifestyle factors, ensuring a safe and effective approach to dietary changes.

Key points

- Popular diets, such as IF, low-carbohydrate, ketogenic, Mediterranean, and Paleo diets, each offer unique benefits and risks for individuals with diabetes.
- IF can aid in weight management and improve glucose regulation and metabolic health, but it requires medical supervision for diabetes management.
- Low-carb and ketogenic diets may improve glucose control but carry risks of hypoglycemia, dyslipidemia, sustainability, and impaired growth and cognition in children.
- The Mediterranean and Paleo diets promote heart health and metabolic benefits.
- It's essential to consult a healthcare professional and a dietitian before making any dietary changes to ensure safety and overall efficacy.

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Before you Begin: Indications for Stress Testing in Pre-exercise Evaluation

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Individuals with diabetes should engage in regular physical activity (PA) and reduce sedentary behavior, given its associated benefits on insulin sensitivity, glucose control, and cardiovascular health. A combination of aerobic and resistance exercises is recommended for individuals with diabetes. However, exercise regimens should be individualized depending on existing comorbid conditions, physical limitations, health goals, preferences, and lifestyles. In addition, pre-exercise evaluations may be necessary for certain individuals. Most individuals planning to engage in low- to moderate-intensity PA, such as brisk walking, do not require a pre-exercise medical evaluation unless they have symptoms of cardiovascular disease (CVD) or microvascular complications. However, those who are sedentary should seek medical clearance before participating in moderate-to-high-intensity PA.

The need for pre-exercise stress testing in asymptomatic adults with type 2 diabetes mellitus (T2DM) is debated. One study indicated that participants with T2DM had low rates of major CVD outcomes (under 1%) over 3.4 years, with no significant differences between those who underwent stress testing and those who did not. Additionally, stress testing did not reduce CVD events. Other studies, including Look AHEAD (Action for Health in Diabetes) and Detection of Ischemia in Asymptomatic Diabetics (DIAD) trials, found that older age was linked to more abnormalities during exercise stress testing, but more intensive testing did not change event rates. There is also no evidence supporting the necessity of stress testing before anaerobic or resistance training, as coronary ischemia is less likely during resistance exercises.

While the overall benefits of pre-exercise testing remain unclear, it can play a crucial role in identifying underlying cardiovascular risks that may not be apparent during routine evaluations. For individuals with a long history of diabetes or those presenting with specific risk factors, pre-exercise testing can provide valuable insights into their cardiovascular health, enabling tailored exercise prescriptions that prioritize safety. Early identification of potential issues can help mitigate risks associated with exercise, ensuring a safer approach to PA for those with heightened vulnerability. Hence, one must consider pre-exercise testing for the following indications:

- Age >40 y, with or without CVD risk factors other than diabetes
- Age >30 y and:
  - Type 1 or type 2 diabetes >10 y duration
  - Hypertension
  - Cigarette smoking
  - Dyslipidemia
  - Proliferative or pre-proliferative retinopathy
  - Nephropathy, including microalbuminuria

- Any of the following, regardless of age:
  - Known suspected cardiovascular, coronary artery, or peripheral artery disease
  - Autonomic neuropathy
  - Advanced nephropathy with renal failure

While most do not require pre-exercise evaluations for low- to moderate-intensity activities, certain individuals, particularly those with specific risk factors, may benefit from pre-exercise stress testing to ensure safety and optimize health outcomes.

Resources:

- Kanaley JA, Colberg SR, Corcoran MH, *et al.* Exercise/Physical Activity in Individuals with Type 2 Diabetes: A Consensus Statement from the American College of Sports Medicine. *Med Sci Sports Exerc.* 2022;54(2):353–68. doi:10.1249/MSS.0000000000002800

Bharatanatyam: A Cultural Path to Diabetes Control

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Dancing has been shown to increase vascular health, immune system effectiveness, psychosocial factors, motor control, and insulin sensitivity in the management of diabetes. Dance exercise also promotes positive emotions and healthy social interactions, along with maintaining relationships with other people in the group while exchanging experiences about their common medical problems.

Bharatanatyam, an ancient Indian classical dance style, has gained attention in health and wellness research beyond its cultural significance. This dance form is characterized by combining both the anaerobic lactic and aerobic systems, which have strong metabolic and cardiovascular demands. Because of its structured movements, rhythmic patterns, and rigorous practice, Bharatanatyam may help those with diabetes or those at risk of developing the disease regulate their blood glucose levels.

One study was conducted to investigate the effect of Bharatanatyam dancing (BD) practice on the obesity and diabetes status of adult Bengalee females with sedentary jobs. The study concluded that in comparison to their control group (CG) counterparts, Bharatanatyam dancing group (BDG) people had considerably acceptable values of anthropometric markers of obesity. While fasting blood glucose was within the normal range for both BDG and CG, BDG participants had significantly lower blood glucose readings than CG participants. According to the current research, practicing BD regularly has a positive effect on diabetes risk factors in women who work in sedentary jobs. Hence, it should be promoted and accepted as a possible and fun form of physical activity. The study also showed that Bharatanatyam practitioners had better body composition, higher energy expenditure, and enhanced cardiovascular fitness. These results imply that dancing may be able to lessen the negative effects of a sedentary lifestyle, which is a major contributor to type 2 diabetes.

Another study looked at the effectiveness of a culturally relevant exercise intervention in improving the glycated hemoglobin (HbA1c) of South Asian women with diabetes as compared to standard therapy. In comparison to standard care, the results from this randomized controlled study indicated culturally relevant dance as an effective exercise intervention to decrease HbA1c levels.

Key points

- Bharatanatyam is a culturally enriched physical activity that may be beneficial for managing diabetes and blood glucose levels.
- In populations with a cultural affinity for this art form, in particular, it may be a compelling alternative or addition to traditional fitness regimes, given its accessibility and enjoyment.
- Nevertheless, its potential, larger sample numbers, and controlled trials are required to investigate the long-term effects of Bharatanatyam on diabetes prevention and management.

Resources:

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Frequently Asked Questions on Physical Well-being and Diabetes

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1. I've successfully achieved remission from type 2 diabetes mellitus (T2DM) after making significant lifestyle and dietary changes. However, I'm concerned about the possibility of a relapse. What steps can I take to prevent my diabetes from coming back, especially since managing it has been such a challenge?

Ans. It's great to hear that you have achieved diabetes remission! Preventing a relapse of T2DM requires maintaining the lifestyle habits that helped you reach this milestone.

Balanced diet: Focus on whole grains, legumes, and vegetables, and minimize refined sugars and processed foods. Traditional Indian diets, rich in plant-based and low glycemic index (GI) foods like millets, are great for stabilizing blood glucose levels.

Portion control and mindful eating: Watch portion sizes to prevent weight gain and insulin resistance. Practicing mindful eating and using the recommended healthy plate method – ½ plate of fiber from salad, non-starchy vegetables, 1/4th plate of carbohydrates from roti/rice/millets/whole grains, and the remaining 1/4th plate of protein-rich foods such as curd/paneer/dals and pulses/soy/lean meat such as chicken and fish.

Stay active: Aim for 150 minutes of moderate activity weekly to improve insulin sensitivity. Combine aerobic and strength training exercises.

Monitor blood glucose and regular check-ups: Monitor your blood glucose regularly to spot changes early and adjust your lifestyle as needed. Stay in touch with your healthcare team to monitor progress, include early treatment, and prevent relapse.

2. I've always maintained a healthy weight, and my body mass index (BMI) is 22 kg/m², yet I was recently diagnosed with T2DM. I'm confused because I thought diabetes was linked to obesity. How is it possible to develop diabetes when I'm not overweight?

Ans. T2DM is often linked to obesity, but it can also develop in individuals with a normal BMI due to factors like genetics, high body fat levels (especially visceral fat), physical inactivity, unhealthy eating, stress, and age-related metabolic changes.

Genetics and family history: Genetics and family history of diabetes can predispose you to diabetes, even with a normal BMI.

High body fat levels: High body fat levels, especially visceral fat that lines your internal organs, even with a normal BMI, can lead to insulin resistance and increase diabetes risk. Indians have a typical phenotype, "thin fat," which means having normal BMI and high body fat levels.

Sedentary lifestyle: Physical inactivity contributes to insulin resistance in healthy-weight individuals, increasing blood glucose levels and diabetes risk.

Diet and nutrition: A diet high in refined carbs, sugary foods, and unhealthy fats can increase body weight and body fat levels, leading to insulin resistance, elevated blood glucose levels, and eventually, diabetes risk.

Chronic stress and impaired sleep: Chronic stress and poor sleep also raise blood glucose levels over time. Prioritize stress management and sleep for better health!

Other medical conditions: Conditions like polycystic ovarian syndrome (PCOS), thyroid disorders, and hormonal imbalances can increase diabetes risk, regardless of weight.

3. I have T2DM and go to the gym regularly. I've heard a lot about whey protein for muscle recovery and strength building. Is it safe for me to include whey protein in my diet?

Ans. Yes, a person with T2DM can generally consume whey protein, but there are several factors one should keep in mind:

Carb content in whey products: While whey protein supplements are often low in carbohydrates, many commercial versions have added sugars that can raise blood glucose. Always check labels and choose low-carb or those without sugar to manage your blood glucose effectively.

Timing and dosage: The timing of whey protein consumption is crucial. Post-exercise consumption can aid in muscle recovery and improve insulin sensitivity. A common dosage recommendation is 20 g–25 g of whey protein per day. This varies depending on your food intake and exercise routine.

Monitor your response: Since everyone's blood glucose response can vary, regularly check your blood glucose levels after consuming whey to observe any patterns. Keeping a food and glucose diary can help in determining if whey fits well into your routine.

Consult your healthcare provider: Before adding any supplement to your diet, its best advised to discuss it with your doctor and dietitian. They can help you choose a suitable product and dosage that aligns with your dietary needs and diabetes management plan.

4. I was recently diagnosed with diabetes and had initially lost weight due to high blood glucose levels. I was obese before, but now that my blood glucose is under control, I'm gaining weight again. Why is this happening, and should I be concerned?

Ans. It's common for people with diabetes to experience weight loss before diagnosis, especially if blood glucose levels are high for a while. When your blood glucose is too high, your body cannot use glucose efficiently for energy, so it starts breaking down fat and muscle (catabolic phase), leading to weight loss.

Now that your blood glucose is better controlled, your body can use glucose more effectively (anabolic phase). This can result in weight gain. While this can be a positive indicator of returning to a healthier metabolic state, careful management is essential to avoid excess weight gain that could affect long-term health. Reducing high body fat levels and increasing muscle mass are essential steps toward achieving optimal health. Body composition analysis is a valuable tool for understanding the balance between fat and muscle in the body.

If you're concerned about weight gain, it's best to talk to your healthcare provider or dietitian. They can help you create a plan based on your body composition that balances blood glucose levels and maintains a healthy body composition, along with weight management through proper diet, exercise, and lifestyle choices.

Recipe: Masoor Mini Idli

Serves: 2

Ingredients	Amount
Masoor dal/red lentils (without skin)	3/4th cup
Garlic	3–4 cloves
Ginger	1 inch
Cumin seeds (jeera)	1 tsp
Green chilies	2 no.
Onions (finely chopped)	1 medium
Curry leaves	10–12 no.
Turmeric powder	1 tsp
Red chili powder	1 tsp
Garam masala powder	½ tsp
Salt	To taste
Oil	2 tsp
Baking soda	1/4th tsp

1 cup: 250 mL; 1 tablespoon: 15 mL; 1 teaspoon: 5 mL

Method

1. Soak masoor dal in water for 1 hour and drain the water.
2. Grind masoor dal, adding 1 tbsp water, ginger, garlic, 1 green chili, and cumin seeds to a smooth batter. Can add more water to get the required consistency for idli.
3. To the masoor dal batter, add chopped onion, turmeric powder, red chili powder, garam masala, and salt to taste, mix it well, and keep aside for 5 minutes.
4. Add baking soda and mix well.
5. Grease the mini idli plate with oil, fill up the mini idli molds with batter, and steam for 10–12 minutes or until done.
6. Once done, remove the idlis from the molds and keep them aside.
7. Heat oil in a pan, add jeera, 1 chopped green chili, curry leaves, and a pinch of turmeric powder, then add steamed idlis and sauté them for a few minutes.
8. Serve hot with mint coriander chutney.

Dia-Games

Word search

C	S	A	S	S	O	L	T	H	G	I	E	W	M
C	N	O	T	R	E	E	A	E	N	I	E	L	I
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Transfat
Mediterranean
Exercise
Remission
Insomnia
Visceral fat
Weight loss
Diet
Sleep hygiene
Resistance

In PwD Uncontrolled on Dual OADs,

Choose

UDAPA GOLD

Metformin HCL 500mg ER + Glimepiride 1/2 mg + Dapagliflozin 10 mg

GOLDEN CARE

For

Golden Control

Golden Adherence

Golden Protection

Dapagliflozin, Glimepiride and Metformin Hydrochloride (Extended Release) Tablets

Composition:

Each film coated bilayered tablet contains: Dapagliflozin Propanediol USP Eq. to Dapagliflozin 10 mg, Glimepiride IP 1mg, Metformin Hydrochloride IP (As Extended release) 500 mg. Each film coated bipolayered tablet contains: Dapagliflozin Propanediol USP Eq. to Dapagliflozin 10 mg, Glimepiride IP 2mg, Metformin Hydrochloride IP (As Extended release) 500 mg **Indication:** As an adjunct to diet and exercise to improve glycemic control in adult patients with type 2 Diabetes Mellitus(T2DM). **Recommended Dosage:** As directed by the Physician **Method of Administration:** Oral **Warnings and Precautions:** Dapagliflozin, Metformin and Glimepiride should not be used in patients with type 1 diabetes and must not be used for the treatment of diabetic ketoacidosis. **Lactic acidosis** - Lactic acidosis, a rare but serious metabolic complication, most often occurs at acute worsening of renal function or cardiorespiratory illness or sepsis. Metformin accumulation occurs at acute worsening of renal function and increases the risk of lactic acidosis. **Hypotension** - Dapagliflozin causes intravascular volume contraction. Symptomatic hypotension can occur after initiating dapagliflozin particularly in patients with impaired renal function (eGFR less than 60 ml/min/1.73 m2), elderly patients, or patients on loop diuretics. Before initiating dapagliflozin in patients with one or more of these characteristics, volume status should be assessed and corrected. Monitor for signs and symptoms of hypotension after initiating therapy. **Genital Mycotic Infections** - Dapagliflozin increases the risk of genital mycotic infections. Patients with a history of genital mycotic infections were more likely to develop genital mycotic infections. Monitor and treat appropriately. **Hypoglycemia** - Patients receiving Insulin and insulin secretagogues (e.g., sulfonylurea) may be at risk for hypoglycemia. Therefore, a reduction in the dose of the sulphonylurea or insulin may be necessary **Precautions for use: Pregnancy** Limited data on Dapagliflozin, Glimepiride & Metformin Tablets use during pregnancy. Advise patients to inform their healthcare provider if pregnant or planning pregnancy before initiating treatment. **Nursing Mothers** Udapa Gold is not recommended in breastfeeding. Hence, if you are breastfeeding, inform your doctor if you are breastfeeding or planning to breastfeed. **Pediatric Use** The safety and effectiveness of Udapa Gold in pediatric patients under 18 years of age have not been established. **Renal Impairment Dapagliflozin** - Use of dapagliflozin is not recommended when eGFR is less than 45 mL/min/1.73 m2

Glimepiride - To minimize the risk of hypoglycemia, the recommended starting dose of glimepiride is 1 mg daily for all patients with type 2 diabetes and renal impairment.

Contraindications: Udapa Gold is contraindicated in patients with: Severe renal impairment (eGFR below 30 mL/min/1.73 m2), end stage renal disease or patients on dialysis; History of a serious hypersensitivity reaction to any of the excipients of this Tablet. dapagliflozin, such as anaphylactic reactions or angioedema, or hypersensitivity to metformin HCl. Sulfonamide derivatives, such as glimepiride, other sulfonylureas, other sulfonamides; Acute or chronic metabolic acidosis, including diabetic ketoacidosis, with or without coma. Diabetic ketoacidosis should be treated with insulin ; Hepatic insufficiency; Acute alcohol intoxication, alcoholism; Lactation.

For Additional Information/full prescribing information, please write to us: USV Private Limited, Arvind Vithal Gandhi Chowk, B.S.D Marg, Govandi, Mumbai - 400088

Updated on 01st June'24, Expiry by 01st June'25

In T2DM Across Continuum,

START STRONG STAY LONG

Glycomet®-GP 0.5
Metformin Hydrochloride 500 mg SR + Glimepiride 0.5 mg

Glycomet®-GP 1
Metformin Hydrochloride 500 mg SR + Glimepiride 1 mg

Glycomet®-GP 2
Metformin Hydrochloride 500 mg SR + Glimepiride 2 mg

Glycomet®-GP 0.5 FORTE
Metformin Hydrochloride 1000 mg SR + Glimepiride 0.5 mg

Glycomet®-GP 3/850
Metformin Hydrochloride 850 mg SR + Glimepiride 3 mg

Glycomet®-GP 1 FORTE
Metformin Hydrochloride 1000 mg SR + Glimepiride 1 mg

Glycomet®-GP 2/850
Metformin Hydrochloride 850 mg SR + Glimepiride 2 mg

Glycomet®-GP 2 FORTE
Metformin Hydrochloride 1000 mg SR + Glimepiride 2 mg

Glycomet®-GP 3 FORTE
Metformin Hydrochloride 1000 mg SR + Glimepiride 3 mg

Glycomet®-GP 4 FORTE
Metformin Hydrochloride 1000 mg SR + Glimepiride 4 mg

Abridged Prescribing Information

Active Ingredients: Metformin hydrochloride (as sustained release) and glimepiride tablets **Indication:** For the management of patients with type 2 diabetes mellitus when diet, exercise and single agent (glimepiride or metformin alone) do not result in adequate glycaemic control. **Dosage and Administration:** The recommended dose is one tablet daily during breakfast or the first main meal. Each tablet contains a fixed dose of glimepiride and Metformin Hydrochloride. The highest recommended dose per day should be 8 mg of glimepiride and 2000mg of metformin. Due to prolonged release formulation, the tablet must be swallowed whole and not crushed or chewed. **Adverse Reactions:** For Glimepiride: hypoglycaemia may occur, which may sometimes be prolonged. Occasionally, gastrointestinal (GI) symptoms such as nausea, vomiting, sensations of pressure or fullness in the epigastrium, abdominal pain and diarrhea may occur. Hepatitis, elevation of liver enzymes, cholestasis and jaundice may occur; allergic reactions or pseudo allergic reactions may occur occasionally. For Metformin: GI symptoms such as nausea, vomiting, diarrhea, abdominal pain, and loss of appetite are common during initiation of therapy and may resolve spontaneously in most cases. Metallic taste, mild erythema, decrease in Vit B12 absorption, very rarely lactic acidosis, Hemolytic anemia, Reduction of thyrotropin level in patients with hypothyroidism, Hypomagnesemia in the context of diarrhea, Encephalopathy, Photosensitivity, hepatobiliary disorders. **Warnings and Precautions::** For Glimepiride: Patient should be advised to report promptly exceptional stress situations (e.g., trauma, surgery, febrile infections), blood glucose regulation may deteriorate, and a temporary change to insulin may be necessary to maintain good metabolic control. Metformin Hydrochloride may lead to Lactic acidosis; in such cases metformin should be temporarily discontinued and contact with a healthcare professional is recommended. Sulfonylureas have an increased risk of hypoglycaemia. Long-term treatment with metformin may lead to peripheral neuropathy because of decrease in vitamin B12 serum levels. Monitoring of the vitamin B12 level is recommended. Overweight patients should continue their energy-restricted diet, usual laboratory tests for diabetes monitoring should be performed regularly. **Contraindications:** Hypersensitivity to the active substance of glimepiride & Metformin or to any of the excipients listed. Any type of acute metabolic acidosis (such as lactic acidosis, diabetic ketoacidosis, diabetic pre-coma). Severe renal failure (GFR<30ml/min). In pregnant women. In lactating women Acute conditions with the potential to alter renal function (dehydration, severe infection, shock, intravascular administration of iodinated contrast agents); acute or chronic disease which may cause tissue hypoxia (cardiac or respiratory failure, recent myocardial infarction, shock); hepatic insufficiency; acute alcohol intoxication; alcoholism. **Use in a special population:** Pregnant Women: Due to a lack of human data, drugs should not be used during pregnancy. Lactating Women: It should not be used during breastfeeding. Pediatric Patients: The safety and efficacy of drugs has not yet been established. Renal impairment: A GFR should be assessed before initiation of treatment with metformin containing products and at least annually thereafter. In patients at increased risk of further progression of renal impairment and in the elderly, renal function should be assessed more frequently, e.g. every 3-6 months.

Additional information is available on request.

Last updated: March 13, 2023

In case of any adverse events, kindly contact: pv@usv.in For the use of registered medical practitioner, hospital or laboratory.

USV Private Limited Corvette Team

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