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Diabetes and Seasons

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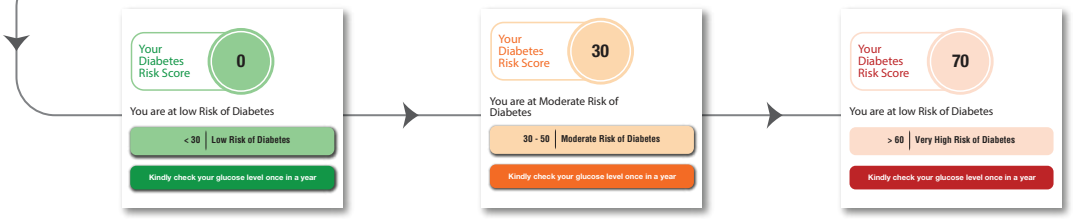

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*DSME: Diabetes Self-Management Education, DSMS: Diabetes Self-Management Support

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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 & 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.

Changing seasons have an impact on blood glucose control with HbA1c levels coming down in summer and increasing in winter. Monsoon has its own set of challenges for a person having diabetes. This month's IDEJ aims to propagate information on the latest evidence-based recommendations for diabetes management during different seasons and ways to achieve good glycemic control even in changing weather conditions. We hope this journal will enable people with diabetes to enjoy all the seasons year-round by empowering them to manage their blood glucose levels with ease by taking certain simple precautionary measures.

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 a Diabetes Care Capital of the World."

Sincere Regards,

Dr. Sanjay Agarwal
RSSDI Secretary

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

Expert Contributors
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Article: Diabetes Management with Seasonal Changes

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Article: Skin Care in Diabetes

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Article: Long COVID and Diabetes

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Article: Tips to Prevent Moisture Damage to Insulin Pump

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Article: Nutritional Management of Infectious Diseases Common in Monsoon

RSSDI Indian Diabetes EDUCATOR JOURNAL

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Cover Story: Diabetes Management with Seasonal Changes

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India has a diverse range of physiographic conditions and reliefs, ranging from the tropics to the subtropics, and is split regionally into several climates and seasons. Winter (January–February), Pre-Monsoon or summer (March-May), Monsoon (June–September), and Post-Monsoon (October–December) are the four climatological seasons recognized by the Indian Meteorological Department (IMD). Climate change has a negative influence on human health because temperature extremes are rising or decreasing.

Diabetes has become a serious healthcare issue in India, with millions of people suffering from the condition. It is well known that good glycemic control helps to reduce the risk of other complications, which is why current guidelines recommend more severe glycemic objectives. Several studies have found that glycemic control, as assessed by HbA1c levels, varies with season.

Diabetes and the summer season

People with diabetes are more sensitive to heat than people without diabetes.

- Certain complications associated with diabetes such as damage to blood vessels and nerves can impact sweat glands, causing the body to lose its ability to cool properly. Heat exhaustion and heat stroke, both of which are medical emergencies, can occur because of this. In addition, because perspiration cannot escape as quickly in those with diabetes, staying cool in high humidity is more difficult.
- People with diabetes are more likely to become dehydrated. Blood glucose levels can rise if the intake of fluids is poor, and high blood glucose levels cause more urination, which leads to dehydration.
- Extreme heat can alter how the body uses insulin. Frequent monitoring is required to alter the insulin dose for better control.

Tips to manage blood glucose levels during the summer season

- Dehydration should be avoided by drinking plenty of water even when not thirsty.
- Alcoholic beverages and caffeine-containing beverages such as coffee, energy drinks, and sports drinks should be avoided. They are dehydrating agents and cause blood glucose levels to rise.
- Physical activity is essential for diabetes management; however, exercising should be avoided outside during the hottest part of the day or when the heat index is high. Exercise can be included early in the morning or late at night when the weather is cooler, or by exercising in an air-conditioned room or gym.
- Blood glucose levels should be monitored before, during, and after exercising.

- Light-coloured and loose-fitting clothes should be preferred.
- Sunscreen and a hat can be carried while travelling outside as sunburn can raise blood glucose levels.
- People with diabetes are susceptible to problems with their feet. In the summer, people face the temptation to go barefoot or wear open sandals that expose their toes to trouble It is better to wear shoes that fit well even in warmer months and at the end of the day, check your feet for any cuts, scrapes, blisters, or bruises. Any foot injuries should not be ignored.
- Storing insulin or oral diabetes medicine in direct sunlight or in a hot car should be avoided as their potency can reduce with exposure to extreme heat.
- While travelling, insulin and other medicines should be kept in a cool pouch. Putting insulin directly on ice or on a gel pack should be avoided.
- Heat can damage the blood glucose monitor, insulin pump, test strips, and other diabetes equipment. Therefore, proper care must be taken as per the manufacturer's instructions. Never leave diabetes equipment in a hot car, by a pool, in direct sunlight, or on the beach.

Diabetes and winter season

Gikas A *et al*., 2009, examined the seasonal variations in fasting blood glucose and HbA1c levels in people with type 2 diabetes mellitus and found that mean fasting and HbA1c levels were significantly higher during the winter than in summer. The exact reason is unknown, but it could be due to higher levels of cortisol, and low physical activity since people avoid exercising out in the cold weather. Food intake increases in winter and people usually crave comfort foods which are high in carbohydrates and sugar. Additionally, the cold season is associated with depression and low mood during which again one tends to eat comfort foods. This causes weight gain and blood glucose levels to spike causing HbA1c to show poorer results in the cold months.

Tips to manage blood glucose levels during the winter season:

- Exercise helps to increase insulin sensitivity, keeps the body warm, and is good for the mind. During winter if one is unable to go out for a workout due to cold weather, indoor physical activities like dancing, yoga, jumping, indoor aerobics, climbing the stairs, etc. should be preferred.
- Overeating should be avoided and healthier food choices must be made, as during winter the body requires more calories to fight against cold.
- Homemade snacks, fruits and nuts should be preferred over ready to eat snacks or packaged foods as they give short term satisfaction and often one tends to feel hungry after 2 to 3 hours.
- More complex carbohydrate sources like oats, bajra, jowar, whole wheat, buckwheat, etc., should be incorporated which are rich in fibre, provide satiety and reduce food cravings.

- Leafy vegetables in the form of warm soups, salad, and gravies should be included in the diet as they are also high in fibre and micronutrients and are low in carbohydrates.
- People with diabetes are more prone to cold, cough, and flu during winter due to low immunity, therefore protein-rich foods like legumes, nuts, dairy products, chicken, fish, and egg must be included in the diet which helps to build immunity.
- During winter, blood glucose levels fluctuate and so it is necessary to keep track by monitoring regularly. However, cold temperatures can make it harder to test because the hands become chilly. Warm the hands on a warm cup or a heater with a towel or by placing thick clothing over them before performing the test if they are cold.

Diabetes and monsoon season

The monsoon and post-monsoon season in India may be related to the spurt of contagious and infectious diseases like influenza, diarrheal disease, cholera, dengue, typhoid as well as respiratory diseases. In people with diabetes, uncontrolled blood glucose levels (apoptosis of WBC); low levels of vitamin D, and monsoon season (sudden temperature change) can lead to a weakened immune system, making them more prone to infectious diseases. Therefore, it is important to do regular exercise, follow a healthy diet, and drink adequate (filtered/boiled) water which helps to improve glycemic control and boosts immunity. It may be a good idea for people having diabetes to take their annual flu vaccine to avoid frequent sickness.

Every season has a different impact on blood glucose levels. Therefore, it is important to consider the season and follow a healthy lifestyle accordingly which helps to achieve good glycemic control.

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Frequently Asked Questions

1. I am a 24-year-old boy. I have been diagnosed with type 2 diabetes 2 years back. I generally sweat a lot and now that the summer is approaching, I am a bit concerned about getting dehydrated. Do blood glucose levels rise if one is dehydrated?

Ans: Dehydration is common in the summer with rising temperatures and humid conditions. Dehydration can increase blood glucose levels and having uncontrolled diabetes can also lead to dehydration as the kidneys will constantly try to flush out the excess sugar and make you urinate more. It is very important to stay hydrated when it is hot outside. Drink enough fluids like water, infused water and buttermilk to stay hydrated. Avoid caffeinated beverages and excess alcohol as these are also dehydrating agents. Try and stay indoors during extreme hot hours of the day and try to include exercise which can be done indoors in air-conditioned environments like the gym or exercise early in the morning when it is not too hot. Watch out for symptoms of heat exhaustion, such as dizziness, profuse sweating, muscle cramps, fainting spells, headaches, increased heartbeat and nausea. Always carry a bottle of water with you. While exercising also keep sipping on water. Keep a check on the blood glucose levels and monitor them often. Just keeping yourself well hydrated with fluids will help to prevent dehydration and rise in blood glucose levels.

2. I am a 32-year-old man with uncontrolled blood glucose levels. I have been advised to wear the Freestyle Libre CGM patch by my doctor. However, my job includes fieldwork and I am concerned about the rains. Many times if it rains suddenly and I am outdoors, I tend to get wet. Even if I carry an umbrella or raincoat, by the time I protect myself, I get a little wet so if my patch gets wet will it stop functioning or give wrong readings?

Ans: Your concern is valid but the good news is that the sensor is water-resistant. So getting wet in the rain for a few minutes will not cause any harm. In fact, the sensor is water-resistant up to 1 metre (3 feet) of water. However, one should not immerse longer than 30 minutes. Also, remember the reader is not waterproof so always keep that protected well away from moisture.

3. I am a 37-year-old female. I have been recently diagnosed with diabetes. I love seasonal fruits and always made it a point to eat them. But now that I have diabetes I am worried. Do I need to give up on fruits?

Ans: Fruits are a powerhouse of vitamins and minerals. However, they do contain their natural sugar. You must consume seasonal fruits as they have the maximum bioavailable nutrients, however, you just need to consider the timing and the right amount of fruit to eat. Fruits should be consumed either in the morning on empty stomach or as a snack between main meals. They can be combined with nuts to add fibre and protein to blunt the glycemic response. Fruits should never be combined with meals. They also make a good pre-workout snack. Monitor your blood glucose levels often to see the effect it has on them. It is advisable to meet a qualified dietitian to understand the right portions of fruit which you can consume and the right time of the day to enjoy them.

4. I am a 50-year-old man and work in a courier service. I have diabetes for the last 7 years. Due to my job, I end up walking through puddles in the monsoon to reach remote locations. I recently noticed thickening and discolouration of my thumb nail. It also appears brittle and sometimes has a foul smell. What should I do?

Ans: Discolouration can be a sign of nail infection. Fungal infections are very common in the rainy season. Toenail fungus or onychomycosis is a common fungal infection among people having diabetes because blood circulation is poor in the extremities, and the body's ability to fight infections is compromised. If left untreated, it can lead to more severe complications like foot ulcers. It is treatable so firstly show the thumbnail to the doctor and start treatment for it immediately. Also, keep your blood glucose levels in the target range to avoid further complications. Maintain good hygiene practices and try and keep your feet dry to avoid such fungal infections.

Skin Care in Diabetes

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Skin, the largest organ and most sensitive part of the body can experience complications from uncontrolled diabetes. Varying weather conditions tend to have a substantial impact on the texture, complexion, and elasticity of the skin. Fluctuations in temperature and humidity levels affect the pH balance of the skin, leaving it vulnerable to breakouts and allergies. People with diabetes are more prone to a wide range of skin problems. It is very important to modify the skincare regimen with the seasonal transitions and adopt new methods to prevent skin problems.

Winter season

People with elevated blood glucose levels tend to have dry skin and less ability to fend off harmful bacteria. In cold weather conditions, skin tends to become more dehydrated, red and irritated due to the lack of moisture in the air. These changes increase the risk of infection, hence the most important thing is to control blood glucose levels and necessary safety measures must be taken to protect the skin.

Some winter skin care tips include:

- Very hot baths and showers should be avoided. Instead, warm water baths are good to avoid dryness.
- Dry and itchy skin can open up and allow infection to set in. The skin should be moisturized using a mild fragrance-free moisturiser daily especially after bathing when the skin is moist. However, applying the lotion between toes should be discouraged as extra moisture can encourage fungus to grow.
- Lips are also likely to chap, dry, and crack and a good lip balm can help. Balms with natural and mild ingredients like coconut oil, almond or shea butter are good options. Balms with heavy chemicals must be avoided.
- At home, humidifier can be used as it will help to keep moisture in the air and help prevent dry skin.
- Gentle and non-scented products should be used as skin becomes highly sensitive during winters.

Summer season

People with diabetes suffer from a lot of skin issues during summer like boils, abscesses, furuncles and these infections get quite severe at times if appropriate care is not taken.

Some summer skincare tips include:

- People having diabetes sweat a lot and infections may also arise due to perspiration. Washing the face at least twice or thrice in a day is considered to be a good habit for healthy skin.
- It is advisable to bathe at least twice a day in summers. Bathing followed by an antiseptic lotion will prevent bacterial growth on the body. Light-weight, free flowing cotton clothes should be worn and synthetic clothes should be avoided.
- A sunburn can raise the blood glucose levels. Sunburns can also cause dehydration and inflammation. To protect the skin from scorching heat and sunburn, sunscreen should always be applied with an SPF of 30 at least.
- People with diabetes are prone to foot injury and infection or ulceration while walking barefoot when out for a vacation or picnic, or on a beach. One should not walk bare footed.
- During summers feet are more prone to sweat with the socks and closed shoes. Cotton socks are preferable over synthetic ones.

Monsoon

The monsoon season seems very pleasant, but brings with it a whole lot of germs, infections, and other health problems. People with diabetes need to pay special attention to personal hygiene and avoid foot infections.

Some monsoon skincare tips include:

- People having diabetes should always wear protective foot wear and keep the skin clean and dry at all times.
- In monsoon, repeated wetting of shoes and socks increases the risk of infections. It is essential to wash the feet thoroughly with soap and water and wipe it well after reaching home and it should be ensured that the area between the toes is cleaned with a dry towel to prevent fungal growth.
- The risk of calluses, cuts, scrapes, bruises and corns increases in the rains. Swelling of feet and redness are some of the other complications possible during monsoon. So, people with diabetes should keep examining their feet daily for any signs of these and must report to their doctor any kind of changes observed.

Skin care forms an essential part of diabetes management. Seasonal changes affect the skin and therefore to keep the skin safe and protected, one should ensure hygiene and proper skin care routine. In addition to this it is very important to keep blood glucose levels under control and if one notices any changes in the skin, it must be shown to the doctor and treated as timely detection and treatment can save future complications.

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Did You Know?

Gustatory sweating is a complication of diabetes not related to hot weather

Gustatory sweating is profused sweating after ingestion of food or drinks. It may develop as an autonomic dysfunction symptom in people with diabetes. It is characterized by profused symmetrical facial sweating which is precipitated by eating, irrespective of the type of food majorly reported in long-standing diabetes which is associated with complications such as neuropathy and nephropathy. It was first reported as early as 1973 by Watkins in six patients with long-standing insulin-dependent diabetes mellitus who had severe complications such as retinopathy and nephropathy or poor glycemic control. The mechanism hypothesized is axonal degeneration from contiguous axons with abnormal sprouting. Watkins proposed that during the development of diabetic neuropathy, abnormal connections develop between the parasympathetic fibres thereby diverting the stimuli to the sympathetic cholinergic axons destined for the face. Whereas, Stuart proposed that diabetic gustatory sweating is merely physiological sweating which is greatly exaggerated by diabetic neuropathy. Studies report that gustatory sweating is provoked by cheese, salty, or spicy food. However, in some cases it can be seen with all types of food. The treatment which is reported to be safe, convenient and effective and also most successful is topical glycopyrrolate in moderate-to-severe symptoms of diabetic gustatory sweating.

Diabetes facts and figures

Out bursts of Malaria are seen during and after monsoon. People with type 2 diabetes, who take metformin usually have high concentrations of lactic acid in their sweat. This acts as an attractant for mosquitoes and are therefore at considerably higher risk of contracting malaria. A study reported that, People with type 2 diabetes mellitus, had 46% increased risk of infection with malaria.

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What's Trending? Long COVID and Diabetes

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Coronavirus disease (COVID-19) has affected many people around the world. Most people who experience COVID-19 fully recover. But many others find complete healing from COVID to be deceptive, due to a condition that is referred to as “Long COVID.”

Long COVID or Post-COVID-19 syndrome ranges from new, reoccurring, or ongoing health problems that people can experience **twelve or more weeks** after first being infected with the COVID-19 virus. Also known as long-haul COVID, post-acute COVID-19, long-term effects of COVID, or chronic COVID, these are conditions that occur after COVID and can also have an effect on the people who did not experience any COVID-19 symptoms in the days or weeks after they were infected. Long COVID conditions can be present as different types and combinations of health problems for different lengths of time.

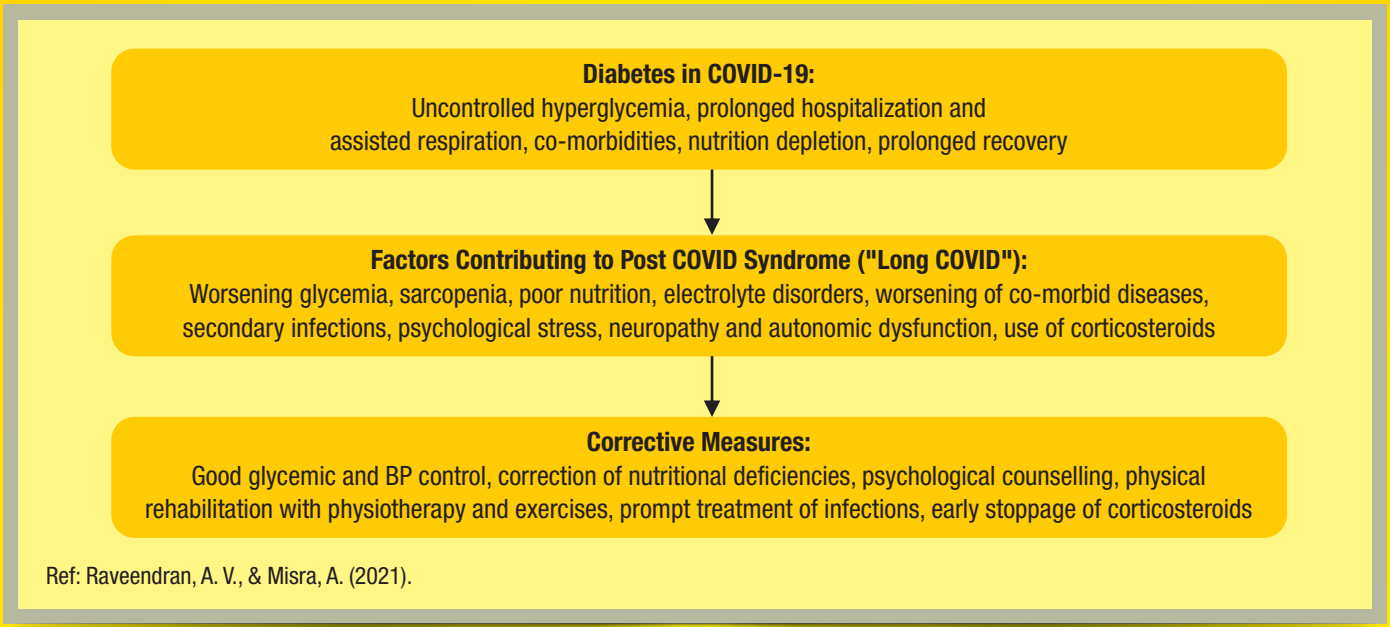
Clinical symptoms like tiredness, dyspnea, fatigue, brain fogginess, autonomic dysfunction, headache, persistent loss of smell or taste, cough, depression, low-grade fevers, palpitations, dizziness, muscle pain, and joint pains are typical in "Long COVID".

COVID-19 can also have multi-organ effects that include clinical manifestations pertaining to the cardiovascular, pulmonary, renal, and neuropsychiatric organ systems, although the duration of these multi-organ system effects is unclear. The long-term effects of COVID-19 treatment or hospitalization are identical to other severe infections. These effects include health issues like post-intensive care syndrome (PICS), resulting in extreme weakness and posttraumatic stress disorder. Many of the patients with these COVID-19 complications do get better with time.

Type of long COVID-19 syndrome	Features
Type 1	Symptoms with different lengths of recovery rate and rehabilitation that directly correlate with the severity of infection, target organ damage and pre-existing medical conditions at the time of initial infection
Type 2	Symptoms lasting for 6 weeks from the time of initial infection
Type 3	Period of inactivity or near-complete recovery following initial infection, followed by the reappearance of symptoms that persist for ≥3 months (Type 3A) or ≥ 6 months (Type 3B)
Type 4	Initially asymptomatic at the time of a diagnosis (SARS-CoV-2 test) but develop symptoms at the beginning of 1–3 months (Type 4A) or ≥ 3 months (Type 4B) later which may persist for varying lengths of time
Type 5	Initially asymptomatic or minimally symptomatic at the time of a diagnosis (SARS-CoV-2 test) and then experience sudden death within the next 12 months.

The risk of Long COVID is higher in those with more than 5 symptoms during acute COVID-19 and in women, the elderly population, obese individuals and people with diabetes. Uncontrolled diabetes increases the severity of COVID-19. It is possible that individuals with long standing diabetes, which may by itself cause debilitation, increase the risk of long COVID. Pre-existing low-grade inflammatory state which is common in diabetes may get exacerbated and remains at a heightened state post COVID-19 that may cause several symptoms.

Below is the relationship between Diabetes and Long COVID



Ref: Raveendran, A. V., & Misra, A. (2021).

In individuals with diabetes, strict glycemic control and control of co-morbidities during the acute phase of COVID-19 would reduce the risk to develop long COVID. The use of steroids should be judicious. Adequate nutrition should be ensured with increased protein intake and micronutrient consumption. Exercise must be started on time post recovery and psychological counselling can help in better management of the situation. Exercise has many health benefits on sarcopenia, psychological health, pulmonary efficiency, immunity, glucose control and blood pressure.

Even if long COVID can have a serious effect on people with diabetes, the impact of the symptoms can be lessened if managed correctly. More studies on bidirectional adverse effects of diabetes and long COVID are needed. With the unfolding of the latest studies and research, a better understanding of the situation could be provided.

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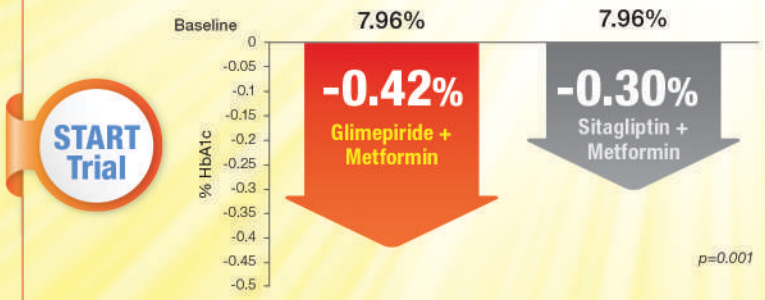

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1. Start trial- Devranjan TV *et al., Indian J Endocrinol Metab.* 2017 Sep-Oct; 21(5): 745–750.JAPI. **2.** *Diabetes Obes Metab.* 2017; 19:1188-1192. **3.** Data on file.

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Abridged Prescribing Information

Composition: • Glycomet GP 0.5 mg: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 0.5 mg. • Glycomet GP 0.5 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000 mg and glimepiride IP 0.5 mg. • Glycomet GP 1: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 1 mg. • Glycomet GP 1/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 1 mg. • Glycomet GP 2: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 2 mg. • Glycomet GP 2/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 2 mg. • Glycomet GP 3: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 3 mg. • Glycomet GP 3/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 3 mg. • Glycomet GP 4: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 4 mg. • Glycomet GP 4/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 4 mg. • Glycomet GP 1 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000 mg and glimepiride IP 1mg. • Glycomet GP 2 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000 mg and glimepiride IP 2mg. • Glycomet GP 3 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000 mg and glimepiride IP 3mg. • Glycomet GP 4 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000 mg and glimepiride IP mg. **Indications:** Glycomet GP is indicated for the management of patients with type 2 diabetes mellitus (T2DM) when diet, exercise and single agent (metformin hydrochloride or glimepiride alone) do not result in adequate glycemic control. **Dosage and Administration:** Dosage of Glycomet GP should be individualized on the basis of effectiveness and tolerability while not exceeding the maximum recommended daily dose of glimepiride 8mg and metformin 2000 mg. Initial dose: 1 tablet of Glycomet GP should be administered once daily during breakfast or with the first main meal. Do not crush or chew the tablet. In several cases the tablet may remain intact during transit through the gastrointestinal (GI) tract and will be eliminated in feces as hydrated mass (ghost matrix). Patients should be advised that this is normal as all drug components have already been released during GI transit. **Contraindications:** In patients hypersensitive to glimepiride, other sulfonylureas, other sulfonamides, metformin or any of the excipients of Glycomet GP; pregnancy and lactation; diabetic ketoacidosis, diabetic pre-coma, in patients with eGFR<30 ml/min/ 1.73 m², 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 (myocardial infarction, shock, cardiac/respiratory failure) hepatic insufficiency, acute alcohol intoxication, alcoholism. **Warnings:** Keep out of reach of children. 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. In case of lactic acidosis, patient should be hospitalized immediately. **Precautions:** In the initial weeks of treatment, the risk of hypoglycemia may be increased and necessitates especially careful monitoring. Serum creatinine levels should be determined before initiating treatment and regularly thereafter: at least annually in patients with normal renal function. Intravascular contrast studies with iodinated materials can lead to acute alteration of renal function. In patients in whom such study is planned, Glycomet GP should be temporarily discontinued at the time of or prior to the procedure, and withheld for 48 hours subsequent to the procedure and reinstituted only after renal function has been re-evaluated and found to be normal. Use of Glycomet GP should be discontinued 48 hours before any surgical procedure. **Adverse reactions:** For glimepiride - hypoglycaemia; temporary visual impairment; GI symptoms like nausea, vomiting, abdominal pain, diarrhoea may occur; increased liver enzymes, cholestasis and jaundice may occur; allergic reactions may occur occasionally. For metformin – GI symptoms like nausea, vomiting, abdominal pain or discomfort may occur.

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Source: 1. JAPI 2020 68,51.-55 2. Data on File, 3. Cureus 2020; 12(9): e10.7759/cureus.1070 4. Diabetes Technology & Therapeutics 2019,.2,79-84 5. Kalra, et al.: Sulfonylurea and combinations: International Task Force Indian J Endocr Metab 2018;22:132-57.

Priscribing information

Information: Metformin hydrochloride (as prolonged release) and glimepiride tablets. Glycomet-GP 0.5/Glycomet-GP 0.5 Forte/ Glycomet-GP 1/ Glycomet-GP 1/850/ Glycomet-GP 2/ Glycomet-GP 2/850/ Glycomet-GP 3/ Glycomet-GP 3/850/ Glycomet-GP 4/ Glycomet-GP 4/850/ Glycomet-GP 1 Forte/ Glycomet-GP 2 Forte/ Glycomet-GP 3 Forte/ Glycomet-GP 4 Forte Abridged Prescribing Information **Composition:** Glycomet GP 0.5mg: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500mg and glimepiride IP 0.5mg.• Glycomet GP 0.5 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 0.5mg.• Glycomet GP 1: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 1 mg. • Glycomet GP 1/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 1 mg. • Glycomet GP 2: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 2 mg. • Glycomet GP 2/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 2 mg.• Glycomet GP 3: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 3 mg. • Glycomet GP 3/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 3 mg. • Glycomet GP 4: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 4 mg. • Glycomet GP 4/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 4 mg. • Glycomet GP 1 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 1mg. • Glycomet GP 2 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 2mg. • Glycomet GP 3 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 3mg. • Glycomet GP 4 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP mg. **Indications:** Glycomet GP is indicated for the management of patients with type 2 diabetes mellitus (T2DM) when diet, exercise and single agent (metformin hydrochloride or glimepiride alone) do not result in adequate glycemic control. **Dosage and Administration:** Dosage of Glycomet GP should be individualized on the basis of effectiveness and tolerability while not exceeding the maximum recommended daily dose of glimepiride 8mg and metformin 2000 mg. **Initial dose:** 1 tablet of Glycomet GP should be administered once daily during breakfast or with the first main meal. 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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. In case of lactic acidosis, patient should be hospitalized immediately. **Precautions:** In the initial weeks of treatment, the risk of hypoglycemia may be increased and necessitates especially careful monitoring. Serum creatinine levels should be determined before initiating treatment and regularly thereafter: at least annually in patients with normal renal function. Intravascular contrast studies with iodinated materials can lead to acute alteration of renal function. In patients in whom such study is planned, Glycomet GP should be temporarily discontinued at the time of or prior to the procedure, and withheld for 48 hours subsequent to the procedure and reinstituted only after renal function has been re-evaluated and found to be normal. Use of Glycomet GP should be discontinued 48 hours before any surgical procedure. **Adverse reactions:** For glimepiride - hypoglycaemia; temporary visual impairment; GI symptoms like nausea, vomiting, abdominal pain, diarrhoea may occur; increased liver enzymes, cholestasis and jaundice may occur; allergic reactions may occur occasionally. For metformin – GI symptoms like nausea, vomiting, abdominal pain or discomfort may occur.

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Tips to Prevent Moisture Damage to an Insulin Pump

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Insulin pumps reduce the frequency of multiple insulin injections and add flexibility to one's routine. But their safe use does need some additional effort. Insulin pumps are usually placed near the body, making it susceptible to moisture damage in daily activities like bathing, swimming, and especially during summertime. Most insulin pumps are designed to withstand a brief splashing of water but not all are waterproof. It is best to plan ahead and follow guidelines to protect the equipment to allow for smooth diabetes management.

While bathing one can either disconnect the pump for a brief period of time or keep it attached with some precautions. The pump should not be disconnected for more than an hour, to prevent glucose and ketones rising in the body. Quick showers usually don't cause any problem. One should test blood glucose levels before and after bathing to understand the body's response. The body's response will depend on various factors such as:

- How close to a meal the pump is disconnected?
- How are the activity levels during the day?
- How warm the shower is?

A small bolus can be taken before shower, if there is history of hyperglycaemia with disconnecting the pump for a considerable amount of time. It is important to note that warm showers will increase the absorption rate of insulin already delivered in the body, this should be taken into account before taking a bolus.

Alternatively, one can keep the pump attached while bathing by securely placing it on a shelf at a convenient height, or beside the bath or in a pouch that can be hung. While placing beside the bath, pump can be placed in a water-resistant case to avoid splashes of water or waterproof pouches are also available that can be hung or worn around the neck. The pump must not be exposed to a very warm atmosphere as it will impact the insulin's effectiveness.

The pump needs to be disconnected and kept away while swimming. One can use the quick-release feature on most infusion sets to disconnect for a period of time. It should be kept in a dry and safe place. It is advised to test often while the pump is disconnected and be equipped with both fast-acting insulin and glucose. Consultation with a healthcare provider is suggested to establish a plan if water activities are going to be a part of the routine. Individuals using an insulin pump must create awareness among peers that the insulin pump is not waterproof. Getting pushed into the pool may sound fun but is not a good idea with an insulin pump.

Sweaty summers make an insulin pump user do some adjustments. If the insulin pump is placed where it touches the skin, keep the buttons on the front faced away from the body. This is because sweating will put the pump at risk of being exposed to moisture. It is recommended to wear it in a case for extra protection preferably of water-resistant material.

Along with pump safety, equally significant is a well- placed infusion set. A variety of tapes and adhesives are available for the infusion set to help keep it in place when more prone to sweat. Extra tapes and adhesives can be used to secure it well. Using an antiperspirant on the site prior to insertion helps the tape stick better, especially during summer.

Resources:

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2. Naomi Kingery, Preventing moisture damage to your insulin pump, Education and Information, Medtronics Diabetes Safety Information, Available at: https://www.medtronicdiabetes.com/loop-blog/tips-for-preventing-moisture-damage-to-your-insulin-pump/

3. 4 FAQs about water activities, Education and Information, Medtronics Diabetes Safety Information, Available at: https://www.medtronicdiabetes.com/loop-blog/4-faqs-about-water-activities/

Monsoon Care for People with Diabetes

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The monsoon season brings much respite to the sweltering summer heat and is always welcomed wholeheartedly. However along with the joy, health problems are always on the rise during the season, from the common cold and cough to viral fever, the season is rife with communicable diseases. This can affect anyone, but people with diabetes, have to take extra care and precautions during the season, as they can have a weaker immune system as compared to others due to high blood glucose levels.

Managing diabetes in monsoon is very important, as there are cravings for hot lip-smacking snacks and it is also a time when outdoor activities are curtailed. Individual with diabetes needs to take care with the right eating habits, healthy lifestyle and personal hygiene to be able to enjoy the refreshing season without the fear of any illness.

Tips for people with diabetes to enjoy the monsoon

- **Exercise:** During monsoon season, physical activity reduces as people usually do not move out of the house. Being less physically active increases the blood glucose level. A minimum of 30 minutes of exercise is very important to keep the blood glucose level under control. Some activities which help in increasing the physically active are helping with the house chores, stair climbing, walking around the house, yoga, zumba, treadmill etc.
- **Maintain personal hygiene:** During monsoon season microbes like bacteria and viruses multiply at an alarming rate when the surroundings are moist, polluted, dirty and contaminated. Make sure to wash hands regularly, using an antiseptic hand wash, trim the nails and shower with warm water. Stay away from mosquito infected areas and take care to avoid practices which help in mosquito breeding and avoid walking through puddles.

- **Foot care:** People with diabetes should take extra care of their feet during the season. It is important to wash the feet after rain exposure, keep an extra piece of cloth to wipe the feet. Socks if wet should be changed. Toenail infections are very common in the rainy season so clean and dry shoes should be worn to avoid bacterial or fungal infections. Open toe and waterproof footwear are preferable. Shoes should be checked for any foreign objects before wearing.

- **Monitor blood glucose levels regularly:** Individuals with abnormal blood glucose levels are more vulnerable to infections, therefore it is crucial to regularly check their blood glucose levels. Any fluctuations in these levels can indicate the onset of an illness. So, it is important to follow a proper meal plan, exercise routine, and monitor glucose levels consistently.

Health tips that can help people with diabetes to eat right during monsoon

- Ensure to drink plenty of water even if not thirsty. Drink at least two to three litres of water a day unless there is a contraindicating health condition. Make sure that the water is boiled or purified by a filter. Avoid drinking any carbonated beverages or packaged juices as these are loaded with added sugar.
- Avoid having raw foods during the monsoon season as the microbial load increases, it is best to ensure that the food is steamed or cooked before eating. Include clear soups, stews and steamed/boiled foods rather than raw salads or juices to avoid indigestion.
- Choose home cooked meals, and avoid having roadside food as much as possible during monsoons. Sticking to home-cooked food cuts down the risk of contracting infections or diseases.
- Make sure to wash fruits and vegetables thoroughly before eating, as they are more likely to be infested by worms. Soaking in vinegar water, saltwater or warm water with lemon juice helps to kill the bacteria.
- Prefer whole seasonal fruits instead of juices and pre-cut fruits.

- Replace fried foods such as bondas, bhajiyas, samosas, vadas, and chaats with healthy snacks such as dumplings, appams, idlis, muthias, and boiled peanut chaat or boiled/roasted corn with steamed vegetables. One can even relish bhajiyas by making them in a non-stick paniyaram pan using a minimal amount of oil instead of deep frying it. Replacing potatoes with paneer/vegetables/mix dal/moong dal etc. this will make the bhajiyas more nutritious and helps to keep the blood glucose levels in control.
- Include ginger, garlic, pepper, turmeric and asafoetida (hing) in the diet as it helps in boosting the immunity.

A well-balanced diet, regular exercise and hygienic practices are very important for people with diabetes to enjoy the season to its fullest.

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2. Vijay M, Barman M, Reddy V. Managing diabetes in the monsoon. *Live well with diabetes, Sweet life.* 2016; Volume 2: Issue2
3. Advanced Diabetes Centre- Diabetes Care During Monsoon. Available at http://advanceddiabetescentre.com/blog/diabetes-care-during-monsoon
4. Berbudi A, Rahmadika N, Tjahjadi AI, Ruslami R. Type 2 Diabetes and its Impact on the Immune System. *Curr Diabetes Rev.* 2020;16(5):442-449. doi:10.2174/1573399815666191024085838
5. Baqir M, Sobani ZA, Bhamani A, *et al.* Infectious diseases in the aftermath of monsoon flooding in Pakistan. *Asian Pac J Trop Biomed.* 2012;2(1):76-79. doi:10.1016/S2221-1691(11)60194-9

Nutritional Management of Infectious Diseases Common in Monsoon

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The monsoon is a delightful season that brings much needed relief from the sweltering summer sun. However, on the other hand, it brings plenty of infections and health problems, ranging from an increased incidence of cough, cold, and flu due to abrupt temperature changes to viral fever and mosquito-borne diseases like malaria, dengue, and others. Temperature swings, pollution, and contaminated water all play a role in the spread of water-borne diseases. Lowered immunity is common among people with uncontrolled diabetes and so they are at an increased risk to catch these infections.

Nutritional tips for managing the infections

- Small frequent meals should be consumed rather than large meals to ease digestion and for maximum nutrient utilization by the body.
- Wholesome foods such as whole grains, pulses, fruit, vegetables, dairy products, fish, poultry, eggs, beans, nuts and seeds should be included to maximize the overall nutrient quality of the meals.
- Hydration is very important, especially in any febrile condition. Two to three litres of water a day should be consumed unless there is a contraindicating health condition. The water should be boiled or purified by a filter. Carbonated beverages or packaged juices should be avoided as these are loaded with added sugar.
- There should be an emphasis on including coloured fruits and vegetables in the diet such as pumpkin, bell peppers, carrots, tomatoes, papaya, sweet lime, oranges, etc. as they are rich in antioxidants and help in boosting the immunity.
- Garlic, pepper, ginger, asafoetida (hing), cumin seeds/ powder, turmeric, lemongrass, basil and coriander should be included in the cooking as they help to enhance the digestion and improve immunity.
- Spicy, oily and fried foods should be avoided.

Nutritional management for specific infectious diseases during monsoon

Tuberculosis (TB): It is a disease caused by bacteria (Mycobacterium tuberculosis) that most often affects the lungs and later it might spread to different parts of the body. The drugs used to treat TB (especially rifampicin and isoniazid) interact with oral anti-diabetic drugs and may lead to uncontrolled blood glucose levels.

Nutritional management

- A protein rich diet is advised for patients suffering from tuberculosis. Diabetes and tuberculosis in combination can lead to sarcopenia and so the inclusion of protein in each meal is important such as milk and milk products like curd, buttermilk, paneer, egg, fish, chicken, all dals and pulses, soybean, soymilk and tofu. A simple combination of cereal and pulses like khichdi, idli with sambhar, dal rice etc. can be included to improve the protein quality. Overall the goal should be to achieve 1.2-1.5g/kg body weight of protein.

- Small frequent feeds should be tried while avoiding overenthusiastic feeding as the individual may not feel like eating despite higher energy requirements.
- Include nuts and seeds in the diet as they are caloric dense and good sources of protein.
- Complex carbohydrates must be chosen to maintain blood glucose control.

Typhoid: Typhoid is a highly infectious bacterial monsoon-related disease. It is usually caused by contaminated food and water.

Nutritional management

- A soft diet which is easy to digest and absorb should be incorporated.
- The slow introduction of proteins in the diet in the form of eggs, curd and boiled fish can be done depending on the tolerance level. Portion sizes can be increased gradually.
- Raw vegetables and salads should be avoided in the diet. Preference should be given to fruits which can be peeled.
- Foods and beverages from street vendors should be strictly avoided.
- The inclusion of fluids in form of thin buttermilk, and clear soups can help to stay hydrated without affecting blood glucose levels.

Dengue and Malaria: These diseases spread in monsoon season as there is a problem of water clogging in many areas which makes it a breeding ground for mosquitoes.

Nutritional management

- Foods rich in zinc such as nuts, whole grains, legumes and dairy products should be incorporated into the diet as they help to boost immune function.
- Warm soups and herbal teas; with mint, basil or ginger are comforting and immune boosting.
- Fatty foods should be avoided in the diet as they can increase the risk of nausea, indigestion, and loose bowels.
- In dengue, papaya leaf juice and dragon fruit are known to be beneficial in increasing white blood cells and platelets.
- Consumptions of green leafy vegetables, cod liver oil, flaxseed oils and fresh fruits help to improve platelet count and reduce inflammation in the body.
- These infections cause a lot of catabolism and muscle loss. A diet rich in protein is helpful as the body can utilize the protein for tissue repair and building process.

Cold and Flu: The sudden change in weather and fluctuations in temperature, are one of the main causes of cold and flu during the rainy season. During monsoons, the immune system weakens and becomes vulnerable to cough, cold and flu. People having diabetes must take their annual flu vaccine to prevent falling sick often.

Nutritional management

- Since patients have poor appetite initially food must be appetizing, and the patient's likes and dislikes must be considered.
- Nutrient-rich foods should be included in the diet.
- All colourful vegetables and fruits, including leafy greens should be included in the diet.
- Whole grains, nuts, eggs, low fat milk, oatmeal and lean meat should be included in the diet as they help for early recovery from cold and flu.

Resources:

1. Krause's Food & the Nutrition Care Process, L. Kathleen Mahan, Sylvia Escott-Stump, Janice L. Raymond, Marie V. Krause, 13th Edition
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5. Ahmed S, Finkelstein JL, Stewart AM, *et al.* Micronutrients and dengue. *Am J Trop Med Hyg.* 2014;91(5):1049-1056. doi:10.4269/ajtmh.14-0142

Diabetes Educator Tip of the Month

Contributed by Zeal Doshi

Msc. Clinical Nutrition and Dietetics, Certified Diabetes Educator.

Foot Care Tips in Monsoon

The refreshing monsoon is all about humid weather, rains and muddy puddles. These can be fun if precautionary measures are taken to keep up the immunity and physical care. Foot care is very important especially in monsoons as the feet may be exposed to various infections due to the wetness around. Here are a few foot care tips to follow in the monsoon:

- Rainproof footwear must be worn which either prevents the feet from getting wet or strapped sandals or floaters or shoes with an opening which do not hold the water inside.
- Footwear should have thick under soles and a broad toe box. Chappals or slippers must be avoided by people having diabetes
- Rainy footwear made of rubber can cause friction and lead to skin peeling. Applying a little coconut oil on the feet can prevent friction. It is very important to examine the feet daily for any wound, redness, swelling etc.

- It is essential to keep feet dry. It is advisable to remove wet socks and footwear as soon as possible, and feet should be washed with mild antiseptic soap and dried properly.
- Care must be taken to use warm water to wash feet, not very hot water.
- Fungal infections are very common in this season so one must avoid applying any cream in between the toes and the toenails should be kept short and edges should be filed.
- One should never walk barefoot to avoid any injury.

These simple precautions go a long way to prevent any foot infection and can allow the person with diabetes to enjoy the season without any fear of complications.

Super Food: Jamun

Syzygium cumini (Jamun) belongs to the family Myrtaceae and is commonly known as Jambul, Indian blackberry, Black plum or Kala Jamun. Jamun fruit is seasonal, the tree bears fruit once a year during June and July. The ripe fruits contain anthocyanins and are purplish -black in colour and have a sweet and sour taste.

It is a medicinal plant and its seeds, leaves, fruit and bark are all used in traditional Ayurvedic medicines.

The fruits have been used for a wide variety of ailments, including cough, diabetes, dysentery, inflammation, piles, stomach ache, digestive complaints and ringworm.

Jamun fruits and seeds are used in treating type 2 diabetes and complications related to it including nephropathy and cataracts.

Monsoon is the time of the year when people usually fall ill as immunity is low during this period. Consuming Jamun which contains various antioxidants, carotenoids, flavonoids, and vitamins during the monsoon season is beneficial for health. Since Jamun is considered to help in blood glucose control, it can be considered an excellent mid-meal snack for people with diabetes during monsoon.

Nutritional facts

- High anthocyanin content and potent antioxidant
- Anti-diabetic properties
- The fruit is carminative, astringent and diuretic.

Health benefits

Jamun has various positive benefits for human health.

Anti-diabetic

- Seeds of the fruit are a rich source of ellagitannins (Ets), which show anti-diabetic activity.
- Seeds also contain a Glucoside, Jamboline and Ellagic acid, which have the ability to check the conversion of starch into sugar.
- Jamun fruit extract inhibits insulinase activity in the liver and kidney pointing to its extra-pancreatic mechanism.
- One study showed that the seed extract reduced glycosylated hemoglobin and increased plasma insulin.
- Quercetin present in the seeds of Jamun enhances insulin sensitivity by improving the production of adipocyte derived factors – adiponectin and leptin.

Chemopreventive

Jamun fruit shows the presence of gallic acid, ellagic acid, flavonoids and anthocyanins which are known to prevent carcinogenesis in various organs.

Antihyperlipidemic

The fruit extract is known to reduce LDL cholesterol and total cholesterol and improve HDL cholesterol. Quercetin and phenolic acids like gallic acids and ellagic acids inhibit 3-hydroxy-3-methyl-glutaryl (HMG)-CoA reductase (the enzyme responsible for cholesterol synthesis) in the liver, thus imparting antihyperlipidemic activity.

How to consume?

People with diabetes can consume half cup of Jamun fruit daily as a mid-meal snack to control their blood glucose levels. It is also available as Jamun juice and seed extract.

Recommended intake

The average daily dose is 1 -3 g of seed powder per day

Juice of ripe fruits can be taken three times a day, in the amounts of 2.5 mL -10mL for treatment of diabetes.

Resources:

1. Ramteke, Vikas & Kurrey, Vivek & Kar, Sonali. (2015) . Jamun A traditional fruit and medicine. Popular Kheti. 3. 188-190.
2. Swami, Shrikant & Thakor, Nayansingh & Patil, Meghatai & Haldankar, Parag. (2012). Jamun (Syzygium cumini (L.)): A Review of Its Food and Medicinal Uses. Food and Nutrition Sciences. 03. 1100-1117. 10.4236/fns.2012.38146.
3. Chagas Vinicyus Teles, França Lucas Martins, Malik Sonia, Paes Antonio Marcus de Andrade (2015) Syzygium cumini (L.) skeels: a prominent source of bioactive molecules against cardiometabolic diseases: Frontiers in Pharmacology: Vol 6: 1663-9812; 10.3389/fphar.2015.00259

Recipe: Healthy Vada

In monsoon, batata (potato) vada is loved by all so here is a healthier version of this famous dish which can be enjoyed by people having diabetes.

Serves: 2

Ingredients	Amounts
Potato medium sized	2 no.
Green chilli finely chopped	1 no.
Grated bottle gourd (dudhi /lauki)	100 g
Cumin seeds	¼ tsp
Ginger garlic paste	¼ tsp
Turmeric powder	¼ tsp
Coriander powder	½ tsp
Lemon juice	2 tsp
Garam masala	1 tsp
Salt	To taste
Oil	2 tsp
For Batter	
Besan	½ cup
Salt	to taste
Asafoetida	A pinch
1 cup: 250 ml; 1 tablespoon: 15ml; 1 teaspoon: 5ml	

Method

- Heat the oil in a broad pan, add the ginger-garlic paste, chopped green chilli, turmeric powder, coriander powder, lemon juice, pressure cooked potatoes & dudhi and salt, mix well and sauté on a medium flame for 3 to 4 minutes.
- Remove from the flame, cool and divide the mixture into 6-7 equal portions.
- Roll out each portion into a round and keep it aside.
- Prepare a thick batter by mixing besan, salt, asafoetida and water as needed.
- Take the appam maker and grease it with oil, and heat it for a few minutes.
- Dip the potato rounds in the prepared batter and place them in the appam maker.
- Cook till they turn golden brown in colour on all the sides.

Dia-Games

Choose the correct answer

1. Minimum how many minutes of exercise is important daily to keep the blood glucose levels under control?

   a) Minimum 30 minutes b) Minimum 20 minutes

2. Which of the following footwear is suitable for people with diabetes in monsoon?

   a) Close toe and waterproof b) Open toe and waterproof

3. In which type of long COVID symptoms last for 6 weeks from the time of initial infection

   a) Type 3 b) Type 2

4. Which of the following flexibility exercise can be included to prevent long COVID symptoms like relieving joint or muscle pain

   a) Stretches, Yoga and Tai chi b) Climbing stairs

5. Gustatory sweating is profuse sweating after a long workout

   a) True b) False

6. Which of the following fruit and seeds are used in treating type 2 diabetes and complications related to it including nephropathy and cataracts.

   a) Black Grape b) Jamun

7. Which of the equipment mentioned below can get damaged by heat

   a) Insulin pump b) Needles

8. Which compound is present in the seeds of Jamun that helps enhances insulin sensitivity

   a) Anthocyanin b) Quercetin

Answers

1.a 2.b 3.b 4.a 5.b 6.b 7.a 8.b

Patient Speaks

I am Sunil Arora, a 40-year-old businessman. I have a strong family history of diabetes and I was diagnosed with the same 4 years back. I am on oral medications for the same and I have them diligently as per my doctor's prescription. However, in the last 2 years I have noticed that despite taking the same medications and same dosage my HbA1c seems to come higher in December-January compared to the summer months. This time after seeing the same trend I visited my DE to understand the cause.

The DE told me that as a trend this is what is usually seen, people tend to have a higher HbA1c in winter months as compared to the summer. I went on to ask her what the cause would be so she started taking my diet recall. In that I mentioned some foods like samosas, bhel puri, etc. which I had eaten frequently as snacks. Also I realised I was eating more number of times in the day than I usually eat as cold weather was making me more hungry. The DE made me realise that the amount of tea and coffee was also more in winter. I was craving more comfort foods and that is why was snacking more often on carbohydrate and fat rich foods. This was obviously increasing my carbohydrate intake of the day and therefore blood glucose levels. The DE then asked me about my exercise routine. She pointed out that I was only exercising 3 days a week. I argued saying that obviously it was too cold in the morning to go for a walk. She then explained to me that this is also an added reason for poor control as in winters we tend to eat more and exercise less with weather being a common excuse. She then gave me some good tips like including warm soups as a snack for comfort and exercising indoors on a treadmill or doing stair climbing or Zumba/Aerobics indoors to be consistent with exercise while being in a comfortable temperature controlled environment. She added that winter is also the time when we have more festivals like Diwali, Christmas, and New Year etc. when one tends to indulge more. She then asked me for the blood glucose log and compared it with my log in summer months. I was myself shocked to see lesser inputs and on questioning I realised I was testing less often as in winter hands are cold so it hurts a little more than usual. The DE explained that I could simply rub my hands together warm them a bit and then test, but frequent monitoring is essential to understand the trends and correct them to be able to keep the control tight and maintain good HbA1c levels. I was surprised that these little behavioural changes that happen naturally with change in weather could play such a major role in my diabetes management. I promised the DE that I will be more aware of these next year and with her tips, I will overcome these challenges and make sure I continue to have good control all year round.

Beat Diabetes Win Life

Published in D-TechCon

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For all your new & existing people with diabetes

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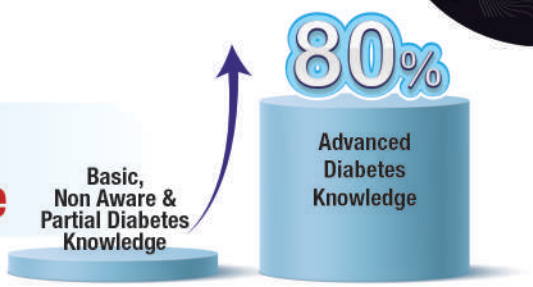

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- Understanding High Blood Sugar
- Blood sugar monitoring
- Know your Risk
- Heart & Kidney link
- Diabetes & footcare
- Diabetes & Eyes
- High Blood sugar & Immunity
- Medication adherence
- Self management of Blood sugar
- Safe feasting & fasting
- Healthy habits

Well informed adherent patients

- Patients to give tests to check their knowledge on each
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Priscribing information

Information: Metformin hydrochloride (as prolonged release) and glimepiride tablets. Glycomet-GP 0.5/Glycomet-GP 0.5 Forte/ Glycomet-GP 1/ Glycomet-GP 1/850/ Glycomet-GP 2/ Glycomet-GP 2/850/ Glycomet-GP 3/ Glycomet-GP 3/850/ Glycomet-GP 4/ Glycomet-GP 4/850/ Glycomet-GP 1 Forte/ Glycomet-GP 2 Forte/ Glycomet-GP 3 Forte/ Glycomet-GP 4 Forte Abridged Prescribing Information **Composition:** Glycomet GP 0.5mg: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500mg and glimepiride IP 0.5mg.• Glycomet GP 0.5 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 0.5mg.• Glycomet GP 1: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 1 mg. • Glycomet GP 1/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 1 mg. • Glycomet GP 2: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 2 mg. • Glycomet GP 2/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 2 mg.• Glycomet GP 3: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 3 mg. • Glycomet GP 3/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 3 mg. • Glycomet GP 4: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 4 mg. • Glycomet GP 4/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 4 mg. • Glycomet GP 1 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 1mg. • Glycomet GP 2 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 2mg. • Glycomet GP 3 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 3mg. • Glycomet GP 4 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP mg. **Indications:** Glycomet GP is indicated for the management of patients with type 2 diabetes mellitus (T2DM) when diet, exercise and single agent (metformin hydrochloride or glimepiride alone) do not result in adequate glycemic control. **Dosage and Administration:** Dosage of Glycomet GP should be individualized on the basis of effectiveness and tolerability while not exceeding the maximum recommended daily dose of glimepiride 8mg and metformin 2000 mg. **Initial dose:** 1 tablet of Glycomet GP should be administered once daily during breakfast or with the first main meal. Do not crush or chew the tablet. In several cases the tablet may remain intact during transit through the gastrointestinal (GI) tract and will be eliminated in feces as hydrated mass (ghost matrix). Patients should be advised that this is normal as all drug components have already been released during GI transit. **Contraindications:** In patients hypersensitive to glimepiride, other sulfonylureas, other sulfonamides, metformin or any of the excipients of Glycomet GP; pregnancy and lactation; diabetic ketoacidosis, diabetic pre-coma, in patients with eGFR<30 ml/min/ 1.73 m2, 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 (myocardial infarction, shock, cardiac/respiratory failure) hepatic insufficiency, acute alcohol intoxication, alcoholism. **Warnings:** Keep out of reach of children. 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