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Short Communication

Summer heat and diabetes: Understanding the risks and staying safe

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Abstract

People living with diabetes are more susceptible to heat-related illnesses, particularly during the summer months. This article reviews the risks of heat-related health issues in individuals with diabetes, including dehydration, heat exhaustion, and heat stroke. We also discuss the impact of heat on blood sugar control and diabetes-related complications. Furthermore, we provide practical tips and recommendations for staying safe and healthy during the summer. By understanding the risks and taking proactive measures, individuals with diabetes can minimize their risk of heat-related illnesses and enjoy a healthy and safe summer.

Keywords: Dehydration, Heat-related illnesses, Blood sugar.

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1. Introduction

As the summer months approach, people living with diabetes need to take extra precautions to manage their condition in the heat. High temperatures can affect blood sugar levels, increase the risk of heat-related illnesses, and exacerbate diabetes-related complications.[1]

Millions of individuals worldwide suffer with diabetes, a chronic and complicated metabolic disease. People with diabetes have particular difficulties in the summer because of the ongoing warming of the global climate. Elevated temperatures and humidity levels can worsen difficulties associated with diabetes, raise the risk of heat-related diseases, and interfere with the metabolism of glucose. Furthermore, because of their weakened thermoregulation, dehydration, and adverse drug reactions, diabetics are particularly vulnerable to heat stress.

Despite these dangers, little is known about the particular difficulties that people with diabetes encounter in the summer. Furthermore, a large number of diabetics may not take the necessary safety precautions since they are not aware of the heightened hazards that come with heat.

Including the physiological effects of heat on glucose metabolism, the elevated risk of heat-related illnesses, and the aggravation of diabetes-related complications, this paper attempts to present a thorough analysis of the hazards connected with summer heat and diabetes. We will also go over evidence-based methods for managing diabetes and being safe in the summer, emphasising the value of heat avoidance, glucose monitoring, and water. By examining this crucial subject, we intend to increase knowledge of the significance of heat safety and diabetes management in the summer among medical professionals, diabetics, and the general public.

2. Dehydration and Blood Sugar Control

Dehydration can significantly impact blood sugar control in individuals with diabetes. When the body is dehydrated, it produces more glucose, leading to increased blood sugar levels. Furthermore, dehydration can cause a decrease in insulin sensitivity, making it more challenging for glucose to enter cells. As a result, blood sugar levels may become elevated, and in severe cases, dehydration can lead to diabetic ketoacidosis (DKA), a potentially life-threatening

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complication.[2,3] Conversely, high blood sugar levels can also exacerbate dehydration, as the body attempts to eliminate excess glucose through urination, leading to a vicious cycle of hyperglycemia and dehydration.[4] Therefore, maintaining adequate hydration is essential for effective blood sugar control, and individuals with diabetes should prioritize drinking plenty of water and electrolyte-rich beverages, especially during hot weather or when engaging in physical activity.

3. Heat-Related Illnesses

Heat-related illnesses (HRIs) are a significant public health concern, particularly for vulnerable populations such as individuals with diabetes. As the global climate continues to warm, the incidence of HRIs is expected to rise, posing a substantial threat to the health and well-being of people with diabetes. Individuals with diabetes are more susceptible to heat-related illnesses, such as heat exhaustion and heat stroke.[2] It is found that individuals with diabetes are at increased risk of heat-related mortality, particularly during heatwaves.[5] Heat stroke, in particular, can be life-threatening, and people with diabetes need to take extra precautions to prevent it.

4. Impact on Diabetes-Related Complications

Heat stress can increase the risk of diabetic foot ulcers, particularly in individuals with poor glycaemic control.[6] High temperatures can also exacerbate diabetes-related complications, such as diabetic foot ulcers and kidney disease.[7]

5. Staying Safe in the Heat

So, how can people living with diabetes stay safe and healthy during the summer months?

Here are some tips:

1. Stay hydrated: Drink plenty of water and electrolyte-rich beverages to prevent dehydration.
2. Monitor blood sugar levels: Check blood sugar levels frequently to adjust medication or insulin doses as needed.
3. Stay cool: Stay indoors during the hottest part of the day, use air conditioning, and take cool showers or baths.
4. Wear protective clothing: Wear lightweight, light-coloured, loose-fitting clothing and a hat to protect against the sun.
5. Be aware of heat-related illnesses: Recognize the signs of heat exhaustion and heat stroke, and seek medical attention immediately if symptoms occur.

6. Conclusion

Summer heat can pose significant health risks for people with diabetes. By understanding the risks and taking proactive measures, individuals with diabetes can minimize their risk of heat-related illnesses and enjoy a healthy and safe summer. Remember to stay hydrated, monitor blood sugar levels, stay cool, and check your feet regularly.

7. Conflict of Interest

None.

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