

# Review of: "Heat Stroke and Hyperosmolar Hyperglycemia State: Two Faces of the Same Coin (Dehydration) in the Hajj Journey - How to Reduce Deaths Among Pilgrims"

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Potential competing interests: No Potential competing interests

## Summary

-This article discusses 2 interesting issues (hyperosmolar hyperglycemia and heat stroke) that are of important concern in the performance of Hajj, where these two issues are explained to be interconnected and increase the incidence and severity of each other.

## Review:

-The background does not discuss the point of hyperosmolar hyperglycemia and its relationship with heat stroke.

Performing the Hajj pilgrimage poses significant challenges for individuals with diabetes due to the extreme heat, intense physical exertion, and disruption to normal diabetes management routines. Two critical conditions that frequently affect pilgrims are heat stroke (HS) and hyperosmolar hyperglycemic state (HHS), which are interconnected and can increase the incidence and severity of each other.

-“The heat stroke Hajj Challenges=Extreme Summer Heat +Physical Exertion+ Diabetes Management. Also, the risk of intensified dehydration risk =Extreme Heat×Physical Exertion×Diabetes-related Fluid Loss can occur among pilgrims” would better explain the condition in the form of sentences.

-The mechanism by which HHS increases the incidence of HS and HS causes HHS needs to be explained in more detail and systematically.

The relationship between HHS and HS is bidirectional. HHS can worsen the body's ability to handle heat due to increased metabolic demands from elevated blood sugar levels. Conversely, HS can amplify dehydration, impair thermoregulation, damage blood vessels, and compromise cardiovascular function, leading to HHS.

-Explaining the constraints of diabetes management and hyperosmolar hyperglycemia in Hajj conditions can enrich this article.

Healthcare professionals should provide pre-Hajj counseling to help patients plan their diabetes management, adjust medications as needed, and stay informed about the effects of Hajj on diabetes.

