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experienced speci c symptoms. Management strategies di ered, with DKA requiring aggressive uid resuscitation and insulin therapy, while HHS necessitated uid replacement and correction of electrolyte imbalances. e overall hospital length of stay was longer for patients with HHS compared to complications such as list complications such as cerebral edema, electrolyte disturbances were more prevalent in the DKA group, whereas [9]. Long-term outcomes, including glycemic control and hospital readmissions, varied between the two groups.

e ndings underscore the distinct pathophysiological mechanisms and clinical implications associated with DKA and HHS in youth with diabetes. e identi cation of speci c predisposing factors and clinical markers is crucial for early recognition and targeted management strategies. Di erences in age distribution, type of diabetes, and initial presentation highlight the heterogeneous nature of these metabolic emergencies and emphasize the need for personalized approaches to care. E ective prevention strategies should focus on patient education, regular monitoring of blood glucose levels, and timely adjustment of insulin therapy to minimize the risk of acute complications [10]. Future research should explore novel biomarkers and predictive models to enhance risk strati cation and improve outcomes in youth with diabetes susceptible to DKA and HHS. In conclusion, advancing our understanding of the entanglements between DKA and HHS in youth with diabetes is essential for optimizing clinical management and reducing the burden of acute metabolic crises in this vulnerable population. is combined section presents the study's key ndings, their implications, and a discussion of the results in the context of existing literature and clinical practice. Adjust the speci cs based on the actual study results and interpretations.

Conclusion

Diabetic ketoacidosis (DKA) and hyperglycemic hyperosmolar state (HHS) represent severe metabolic complications in youth with diabetes, each presenting unique challenges in clinical management and outcomes. is study aimed to explore the clinical challenges associated with DKA and HHS in youth, emphasizing di erences in presentation, predisposing factors, management strategies, and outcomes. Our analysis revealed distinct demographic and clinical characteristics associated with DKA and HHS among youth with diabetes. DKA was more prevalent among younger individuals with Type-1 Diabetes, characterized by severe metabolic acidosis and ketonemia. In contrast, HHS was commonly observed in older adolescents with Type-2 diabetes, presenting with extreme hyperglycemia and hyperosmolality. Management strategies di ered signi cantly between DKA and HHS. DKA required aggressive uid resuscitation, insulin therapy, and close monitoring for potential complications such as cerebral edema and electrolyte disturbances. In contrast, HHS management focused on correcting severe hyperglycemia, restoring uid balance, and addressing underlying insulin resistance.

e identi cation of predisposing factors such as missed insulin doses, infections, and non-adherence to treatment regimens underscored the need for tailored educational interventions and proactive monitoring in youth with diabetes. Long-term outcomes, including hospital length of stay and glycemic control, varied

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