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Evaluation of the Factors Affecting Hypoglycemia in Neonates with Diabetic Mothers in Selected Hospitals in Esfahan in 2021

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ABSTRACT

Introduction: Infants born to mothers with diabetes, whether it is type 1, type 2, or gestational diabetes mellitus (GDM), face a significant risk of developing symptomatic hypoglycemia in the early hours following birth. Understanding the factors contributing to this condition is crucial to implementing adequate preventive measures. Therefore, this study aimed to investigate the factors affecting hypoglycemia in infants born to diabetic mothers at Shariati and Isfahan hospitals in 2021.

Methods and Materials: This study was conducted on 146 infants and their diabetic mothers who were diagnosed with GDM. The participants' data were recorded, and the occurrence of hypoglycemia in infants was also documented. The data were then compared using the chi-square and Fisher's exact tests.

Results: The results showed that 25.3% of infants born to mothers with GDM experienced hypoglycemia. The occurrence of hypoglycemia did not correlate with maternal age, gestational age, infant gender, maternal BMI, delivery method, or macrosomia, a condition where a baby is significantly larger than average for its gestational age. However, it was found that the average weight of infants born with hypoglycemia was considerably higher than that of infants without hypoglycemia (3484 g vs. 3180 g). The frequency of hypoglycemia in infants born to mothers treated with insulin and dietary regimen was significantly higher than those treated with diet alone (42% vs. 16%).

Conclusion and Discussion: The findings of this study underscore the high prevalence of hypoglycemia in infants born to mothers with GDM, with approximately one-fourth of the infants affected. Identifying influential factors, such as higher birth weight and the use of insulin for maternal treatment, highlights the importance of accurate glucose measurement at birth for at-risk infants. This is a crucial step in ensuring the health and well-being of these infants. However, further studies are needed to obtain more precise results, particularly with the inclusion of infants from diverse ethnicities and characteristics.

Keywords: Diabetes mellitus, Gestational Diabetes, Hypoglycemia, Infant