

Impact of Medication Adherence on Glycemic Control among Pediatric Patients with Type 1 Diabetes Mellitus: A Cross-Sectional Design

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ABSTRACT

Type 1 diabetes mellitus is an autoimmune disorder that requires lifelong insulin therapy to achieve and maintain adequate glycemic control. Suboptimal adherence to insulin therapy remains a major challenge that negatively affects effective diabetes management and glycemic outcomes. This study aimed to examine the association between medication adherence and glycemic control among pediatric patients with type 1 diabetes mellitus. A descriptive cross-sectional design was employed in Karbala Governorate, Iraq, to investigate the relationship between medication adherence and glycemic control among pediatric patients with type 1 diabetes mellitus. A convenience sample of 100 participants was enrolled. Data were obtained through a structured self-administered questionnaire that captured participants' sociodemographic characteristics and medication adherence. Descriptive and inferential statistical analyses were performed to summarize the data and identify statistically significant associations between the study variables. A total of 100 pediatric patients diagnosed with type 1 diabetes mellitus participated in the study. The participants had fair adherence to their medications, whereas poor glycemic control was recorded for most of the patients. A statistically significant association was observed between medication adherence and glycemic control ($p < 0.05$), with higher adherence levels being associated with more favorable glycemic outcomes, the better their glycemic results were. In addition, there were significant relationships between the adherence and demographic variables. The findings indicate that many pediatric patients attending Al-Imam Al-Hassan Center for Endocrinology demonstrated suboptimal adherence to their prescribed treatment regimens. Medication adherence was significantly associated with glycemic control as well as selected clinical characteristics, including age, duration of diabetes, presence of comorbid conditions, and concomitant medication use.

Keywords: Type 1 Diabetes Mellitus, Medication Adherence, Glycemic Control, and child.

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