

Paediatric Oral Presentation

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BRIDGING THE GAP: ADOPTION AND BARRIERS TO CONTINUOUS GLUCOSE MONITORING IN PAEDIATRIC TYPE 1 DIABETES

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INTRODUCTION

ISPAD guidelines recommend continuous glucose monitoring (CGM) as the standard of care for paediatric type 1 diabetes (T1DM). However, a “real-world” adoption gap persists, particularly in resource-limited settings. The Introductions of the study were to evaluate CGM adoption prevalence, identify documented barriers, and compare glycemic outcomes between active and non-active users.

METHODOLOGY

This retrospective review analyzed electronic medical records (EMR) of 125 paediatric T1DM patients at Hospital Putrajaya (2025). Data included CGM status, insulin delivery method, and documented barriers. Independent T-tests compared mean hemoglobin A1c (HbA1c) between groups, and multivariable logistic regression identified independent predictors of adoption.

RESULTS

Cohort mean age was 11.8 ± 3.8 years. Active CGM users were 32.8% ($n = 41$), of whom 29.3% ($n = 12$) utilized predominantly automated insulin delivery (AID) systems. The remaining 67.2% ($n = 84$) were classified as non-active users, comprising both never-users and ex-users (discontinued use). Active users achieved significantly lower mean HbA1c than non-active users (8.73% vs 9.86%; $p < 0.001$), with no significant difference in rates of DKA ($p = 0.564$) or severe hypoglycemia ($p = 0.250$). Among never-users, 42.9% lacked documented technology counselling ($p = 0.001$). Multivariable analysis identified funding source as the sole independent predictor of CGM adoption (adjusted OR = 7.76, $p < 0.001$). While the primary documented barrier was financial (31.0%), a lack of documented barriers was noted in 61.9% of non-active users.

CONCLUSION

A substantial technology gap exists, primarily driven by financial access rather than clinical demographics. The difference of 1.13% in HbA1c between groups underscores the need to address financial setbacks to improve technology access in Malaysia and prevent diabetes complications.