Time trend of BMI-SDS before, during and after the COVID-19 pandemic: data from the SWEET diabetes registry

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Time trend of BMI-SDS before, during and after the COVID-19 pandemic: data from the sweet diabetes registry

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Introduction: Excess body weight is a global problem, including children with type 1 diabetes (T1D). The COVID-19 pandemic, resulting in lockdowns and the necessity of on-line patient education could potentially increase the problem – either persistently or temporarily.

Objectives: The aim of this study is to assess the impact of the COVID-19 pandemic on BMI-SDS in the SWEET registry population of children with T1D.

Methods: Patients with T1D were eligible for this cohort study if they had documented BMI values in the three observation periods: pre-COVID, March 2019-Feb 2020 (minimum 2 visits); during-COVID, March 2020-Feb 2022 (minimum 4 visits); and post-COVID March 2022-Nov 2023 (minimum 4 visits). BMI-SDS based on WHO standard was calculated and dynamics over time were compared to predicted BMI-SDS based on the pre-COVID gradient. BMI-SDS correlations with selected variables were calculated as Spearman coefficients.

Results: 3873 patients with T1D were included (1-15 years, T1D ≥ 6 months). Pre-COVID and post-COVID BMI-SDS medians were 0.58 [-0.08-1.28, Q1-Q3] and 0.67 [-0.03-1.43]. Adjusted BMI-SDS differences were 0.022 for pre vs during-COVID, p=0.208 and 0.043 for pre vs post-COVID, p=0.0009. BMI-SDS increased significantly in females (pre vs during-COVID 0.045, p=0.0006; pre vs post-COVID 0.119, p<0.0001) but not in males, and in the younger age group 1-9 years (pre vs during-COVID 0.103, p<0.0001; pre vs post-COVID 0.069, p=0.0014) but not in the older subjects (> 9 years old at inclusion). Post-COVID BMI-SDS correlated positively with diastolic and systolic blood pressure, triglycerides, LDL-cholesterol and negatively with HDL-cholesterol (Rho respectively: 0.149, 0.227, 0.198, 0.168, -0.176, for each p<0.0001).

Conclusions: Increase in BMI-SDS over time was observed mainly in females and in younger children, suggesting that these groups deserve particularly education programs aimed at life-style modifications and careful screening for cardiovascular risk factors.

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Beyond twice daily insulin in a low income country-exploring children and adolescents' perspectives on transitioning to a multiple daily insulin regimen in Laos

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Introduction: In many low income countries in Southeast Asia, twice daily premix insulin regimen has been the conventional insulin therapy initiated for children and young people (CYP) with type 1 (T1D)diagnosis. In Laos, universal health coverage for diabetes does not include insulin provision and blood glucose testing kits. Before 2016, no Laotian adult or child was known to have survived. Intensive insulin therapy using multiple daily insulin (MDI) regimen is now a standard regimen recommended for all people living with type 1 diabetes (T1D).

Objectives: This study aims to explore the views and perceptions of CYP with T1D in Laos on how transitioning from twice daily insulin regimen to a MDI regimen affected their diabetes management and quality of life.

Methods: A qualitative research methodology was used to explore the barriers, challenges and impact on quality of life managing diabetes at home and school, and during leisure activities within 3 months of the switch to MDI. Written consent was obtained to participate in the interview.

Results: The study involved 15 participants (4 males). Mean age at diagnosis was 10.93 (range 3 to 22 years) and mean age at switch to MDI was 14.73 years. Prior to the switch, issues related to lack of confidence in carb counting and injections at school-time were raised as barriers. After the switch, the majority of respondents viewed the transition to MDI positively, citing benefits such as improved glucose stability, increased food flexibility, less hypo events and an improved sense of well-being. Overall satisfaction was high following the transition.