**Insulin pump use and glycaemic outcomes in older adults with Type 1 Diabetes: A Clinical Audit**

**Aims:**The effectiveness of insulin pump therapy for older adults with Type 1 diabetes (T1DM) remains unclear. This study aimed to assess insulin pump use and efficacy in older adults compared with younger age groups in a real-world setting.

**Methods:**A retrospective clinical audit was conducted on patients with T1DM at a Melbourne specialist clinic. Data all current patients with T1DM and their latest 3 months of continuous glucose monitoring (CGM) profile were collected. Patients were categorized into three age groups: 18–45, 45–64, and 65+ years. CGM metrics were compared between insulin pump (CSII) and multiple daily injection (MDI) users within each group using paired t-tests (Python).

**Results:** 505 patients with T1DM using CGM were identified. Insulin pump use declined with age: 50% in the 18–45 group, 33.3% in 45–64, and 25% in the 65+ group. Across all age groups, CSII users had significantly better glycaemic outcomes. In the 65+ group, CSII users had lower glucose management indicator (GMI) (7.3% ± 0.75) than MDI users (7.6% ± 0.9, p<0.001). Similar improvements were observed in the 45–64 group (7.0% ± 0.5 vs 7.6% ± 0.9, p<0.001) and 18–45 group (7.3% ± 0.8 vs 7.6% ± 0.9). Time in Range (TIR) was also higher in CSII users across all ages. In the 65+ group, CSII users had 66.1% (± 16.0) vs 53.1% (± 19.3) for MDI (p<0.001). Time Below Range (TBR) remained low and comparable: 1.0% (± 1.2) for CSII users vs 1.5% (± 1.4) for MDI (p=0.07).

**Conclusion:** Insulin pump therapy is associated with improved glycaemic control across all age groups. Despite better glycaemic metrics without increased hypoglycaemia, pump adoption remains low in this 65 + group. These findings highlight the need to address barriers and promote equitable access to insulin pump therapy in this population.