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Proactive specialist diabetes care for people with type 1 diabetes admitted to hospital improves treatment satisfaction: STOIC-T1D randomised controlled trial

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Aim: For people with type 1 diabetes (T1D), hospital admission can be challenging due to glycaemic instability and loss of self-management autonomy. We investigated whether proactive care from a specialist inpatient diabetes team improved satisfaction with diabetes care.

Methods: We conducted the Specialist Treatment of Inpatients: Caring for Type 1 Diabetes (STOIC-T1D) randomised controlled trial. Adults with T1D admitted to hospital under a non-endocrinology team were randomised to receive proactive care (early bedside consultation by the diabetes team without referral) versus usual care (consultation upon request by the treating team). The primary outcome was inpatient satisfaction, assessed using the Diabetes Treatment Satisfaction Questionnaire for Inpatients: DTSQ-IP. The satisfaction score (scored: 6-0, where higher scores indicate greater satisfaction) was calculated as the mean of 17 DTSQ-IP item scores. Secondary outcomes included glycaemia based on point-of-care capillary glucose measurements.

Results: 190 individuals were randomised and 133 (70%) completed the DTSQ-IP (n=66 proactive care, n=67 usual care). Participant characteristics were mean (sd) age 57 (18) years, 65% had diabetes duration >20 years, and admission HbA_{1c} was 8.5 (1.6)%. More participants in the proactive care received diabetes team consultations during their hospital stay (98% vs. 57%, p<0.001), and received it earlier in their admission (median 1 vs. 2 days, p=0.01) compared to usual care. Proactive care increased the mean (sd) DTSQ-IP score (4.5 (0.9) vs. 4.0 (1.4), p=0.02) compared to usual care and decreased the incidence of glycaemic extremes (patient-days with mean glucose >15mmol/L, 10% vs. 15%, p=0.02; and patient-days with glucose <3 or >20mmol/L, 15% vs 20%, p=0.03).

Conclusion: We report the first randomised controlled trial of an inpatient diabetes model of care for T1D investigating a person-reported primary outcome. Proactive bedside consultation and support by a specialist diabetes team for people with T1D improves inpatient care satisfaction and decreases adverse glycaemic extremes.