

An audit of insulin pump therapy in two large Diabetes Centres in the United Arab Emirates

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Introduction

Insulin pump therapy is considered appropriate first choice treatment for many paediatric patients with type 1 diabetes mellitus (T1DM). Adult T1DM patients can also benefit from insulin pump therapy which has the potential to achieve better glycaemic control. However, achieving glycaemic targets depends on patient age, education, clinic set-up and also knowledge and practice of attending clinicians.

Method

Retrospective analysis of patients on active insulin pump treatment attending the Imperial College London Diabetes Centres in Abu Dhabi (n=94) and Al Ain (n=55), was carried out by accessing patients' electronic health records. Data was available on patients' age, glycaemic control and attending doctor and city of residence.

Results

Mean glycosylated haemoglobin (HbA1c) was $8.5 \pm 1.74\%$ (age $17 \pm$, n=149). No significant difference was seen in glycosylated haemoglobin between patients followed up in Abu Dhabi and Al Ain ($8.7 \pm 1.8\%$ v $8.5 \pm 1.6\%$ respectively, independent t-test $p=0.7$). Glycaemic control was worse among paediatric (HbA1c= $9.08 \pm 1.59\%$, n=78) compared to adult HbA1c= $7.9 \pm 1.69\%$, n=71) patients. Mean glycaemic control was similar among adult and paediatric patients regardless of attending doctor.

Patients with a follow-up gap of > 6 months (n=21) had a significantly higher HbA1c compared to patients (n=112) with regular follow-up ($9.0 \pm 2.1\%$ v $8.4 \pm 1.6\%$, $p < 0.001$).

Among patients living outside Abu Dhabi, best and worst control was observed in patients from Dubai (HbA1c $10.0 \pm 2.0\%$, n=11) and Sharjah (HbA1c $7.8 \pm 1.7\%$, n=13), respectively. Number of patients from other cities was small (n=12 in total); these patients achieved similar control to those seen in Abu Dhabi and Al (HbA1c $8.43 \pm 1.7\%$ n=12).

Conclusion

The analysis indicates inadequate glycaemic control among ICLDC patients on insulin pump therapy, mostly independent of city of residence. Paediatric patients and those with less regular follow-up had worse glycaemic control. Better patient education and an improved clinic set-up with trained diabetes educators is likely to help improve outcomes among these patients.