

Efficacy of Insulin Pump Therapy on Diabetes Treatment Satisfaction and Glycemic Control among Patients with Type 1 Diabetes Mellitus in Saudi Arabia: A Prospective Study

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Abstract : Introduction: The aim of this study was to explore the impact of insulin pump therapy on diabetes treatment satisfaction and glycemic control among patients with type 1 diabetes mellitus (T1DM) in Saudi Arabia. Methods: A 6-month, prospective study was conducted among 47 patients (aged 17-24 years) with T1DM who attended the Insulin Pump Clinic at Prince Sultan Military Medical City, Riyadh, Saudi Arabia, between April 2014 and November 2014. The respondents were purposively and conveniently selected and were interviewed using the Arabic version of the Diabetes Treatment Satisfaction Questionnaire at baseline, 3, and 6 months. Demographics and clinical variables including hemoglobin A1c (HbA1c) were also collected. Results: The mean (\pm standard deviation) age of the study cohort was 19.1 ± 1.93 years. Seventeen patients were male (36.2%) and 30 were female (63.8%). Compared to baseline, significant positive differences were found in treatment satisfaction among female patients and patients with long-standing T1DM at 6 months. Frequency of hyperglycemia and hypoglycemia declined significantly in female patients at 6 months and in patients who had a shorter duration of T1DM. Furthermore, significant positive differences were found in HbA1c levels among female patients and among those who had a shorter duration of T1DM compared to baseline. Both female and male patients and those with a shorter duration of T1DM showed significant decline in insulin necessity at 6 months when compared to baseline. Conclusion: Although multiple daily injections is a feasible preference for insulin supply, insulin pumps should also be considered for patients with T1DM as it appears to increase patients' treatment satisfaction, decrease the frequency of hypoglycemia, hyperglycemia, and reduce HbA1c levels.

Keywords : type 1 diabetes, insulin pump, Saudi Arabia, T1DM

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