

Education of Type 1 Diabetes Mellitus Patients on Insulin Pump Therapy - a crucial outpatient practice to prevent ER visits and hospital admissions

Endocrinology Fellowship Program

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BACKGROUND

Insulin pump therapy (IPT) is an essential form of insulin delivery for patients with type 1 Diabetes Mellitus (T1DM).

IPT has been shown to improve control, adherence and outcomes in T1DM.

Despite modern technology, errors can occur due to pump failure, infusion site blockage, delayed durable equipment refills, user error, or any combination of these.

Interruption of IPT can often result in complications that would lead to increased ER visits and hospital admissions.

In an effort to reduce complications during pump failure, it is imperative that providers implement patient safety measures by means of an active backup plan, which includes multiple dose injections (MDI) with basal/bolus subcutaneous insulin regimen.

AIM STATEMENT

Improving MDI back plan for T1DM patients on insulin pump therapy above 75 %

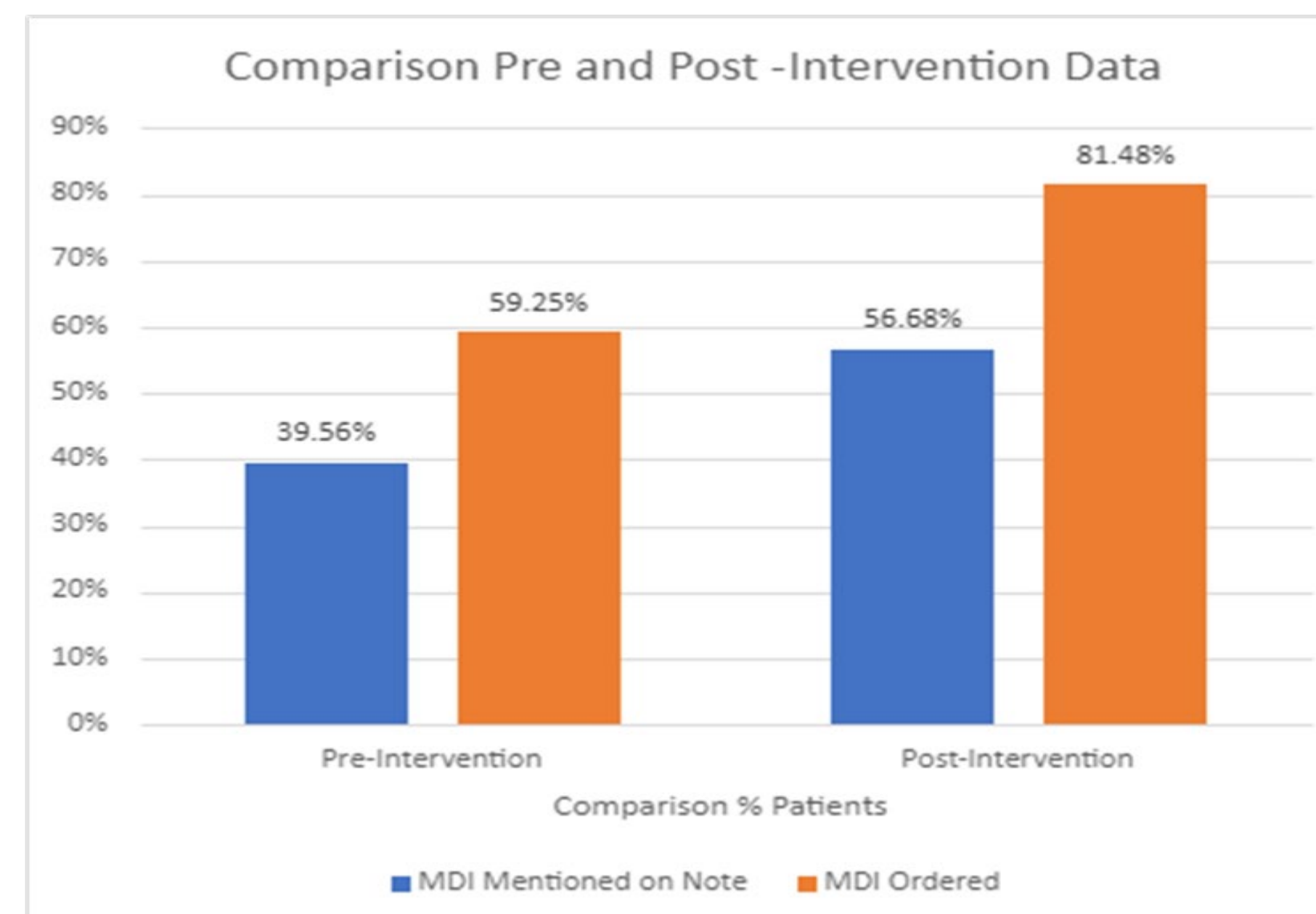
MUSC Pillar: ACO (Diabetes Mellitus)

METHODS/INTERVENTION

- Pre-intervention : Reviewed EPIC data 81 patients with T1DM on IPT, from May to August 2021, to determine the percentage of patients with an MDI plan described in the progress note and updated on the medication list of the last outpatient visit.
- Intervention : Created an MDI plan (an EPIC Smart Phrase of standard MDI plan that contained detailed information for patients on how to use the insulin back up plan, and update all the insulin prescriptions) and emphasized on the importance of having MDI plan documented and addressed during every visit (progress note) and patient education on the plan in the setting of pump failure . An email was sent to Endocrinology Division providers in October 2021, also containing the Epic Smart Phrase (which was also shared in Epic).
- Post-intervention : Reviewed Epic data of 90 patients with T1DM on IPT, from December 2021 to March 2022. to determine the percentage of patients with an MDI plan described in the progress note and updated on the medication list of the last outpatient visit.

RESULTS

Comparison % Patients	Pre-Intervention	Post-Intervention
MDI mentioned on Note	39.56%	56.68%
MDI ordered	59.25%	81.48%



CONCLUSIONS

We anticipate that with increased compliance with backup plans executed this will translate to reductions in complications from pump failure.

In our analysis of pre- and post-intervention data, we note that there was an improvement in MDI prescriptions above the expected goal, and an improvement in MDI documentation that did not reach the expected goal.

BARRIERS:

- Lack of time from intervention to observe full effect, frequency of educational sessions for providers, and changes to multiple providers throughout observation period.

NEXT STEPS

Obtain feedback from providers about the intervention.

Deliver Feedback to Endocrine Division (Provider Performance Feedback).

Education to the Endocrine Division providers about the importance of having an MDI plan and MDI orders updated to prevent ER visits and hospital admissions.

Send quarterly reminders about MDI plan.