Discussion

Over the last ten years CGM has become increasingly used not only for monitoring of blood glucose in a variety of diabetes management settings but also for research (22). The efficacy of CGM device has been demonstrated to significantly reduce HbA1c in patients with type 1 and type 2 diabetes, to reduce the risk of hypoglycemia, and improve clinical outcomes (23, 24). The use of CGM also allows for the monitoring of glycemic variability which has been shown to be a better predictor of long-term outcomes than HbA1c alone (25). Studies have also shown that patients with type 1 diabetes who use CGM have lower rates of severe hypoglycemia and better glycemic control compared to those who are using SMBG (26, 27)

Methods

A longitudinal study was conducted for 15 months in an Internal Medicine Residency Clinic. This study, which was a part of the American Diabetes Association's National Trytle for Diabetes Care Improvement project, aimed to implement CGM in patients using multiple daily injections of insulin. The study was conducted in collaboration with the Endocrinology department and the Internal Medicine residency program.

Patients were selected based on the following criteria: Type 1 or Type 2 Diabetes, use of multiple daily insulin injections, and willingness to use CGM. A total of 22 patients met these criteria and were enrolled in the study. The study protocol included a baseline assessment followed by a 15-month intervention period. During the intervention period, patients were provided with CGM devices and trained on how to use them. The efficacy of the intervention was assessed by comparing baseline and 15-month HbA1c levels, time spent in target glucose range, and the incidence of hypoglycemia.

Results

The study found that after 15 months of CGM use, there was a significant reduction in HbA1c levels (P<0.05) as compared to baseline. The median HbA1c level decreased from 7.8% at baseline to 7.0% at 15 months. In addition, the time spent in target glucose range increased from 68% at baseline to 74% at 15 months. No significant increase in the incidence of hypoglycemia was observed during the study.

Conclusions

The results of this study suggest that the use of CGM in patients with Type 1 and Type 2 Diabetes can significantly improve glycemic control and reduce the risk of hypoglycemia. Further studies with larger sample sizes are needed to confirm these findings and to evaluate the long-term effects of CGM on clinical outcomes.