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UTILISATION OF LIBRE FLASH GLUCOSE SENSING TECHNOLOGY COMPARED TO CONVENTIONAL BLOOD GLUCOSE MONITORING IN DIABETES PATIENTS DURING RAMADAN: A SINGLE CENTER EXPERIENCE

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INTRODUCTION

As patients with diabetes mellitus (DM) are prone to fasting-related complications, intensive glucose monitoring is essential during Ramadan. This study aimed to assess the utility and tolerability of flash glucose sensing technology compared to the conventional self-monitored blood glucose (SMBG) during Ramadan.

METHODOLOGY

This prospective randomized controlled study was conducted at Hospital Putrajaya during Ramadan in 2019. Forty adult Muslim patients with underlying diabetes, HbA1C $\leq 9.0\%$ and on insulin therapy were randomly assigned to either flash glucometer or conventional glucometer arms. All patients were given a glucose diary to document the days of completed fasting, frequency of insulin dosage adjustment and complications related to fasting or glucometer use. Data from all glucometers were downloaded during Visit 2 and 3. The flash glucometer group answered a satisfaction survey upon study completion at Visit 3. One patient from the conventional glucometer group was excluded from the study analysis.

RESULTS

The patients in our study predominantly had type 2 DM ($n=29$, 74.4%). The mean duration of DM was 13 ± 6.7 years, with 74.4% known to have diabetes-related complications. Most patients were able to complete fasting without serious adverse events or complications. The patients in the flash glucometer group monitored blood glucose more frequently than the conventional glucometer group. The frequency of glucose readings within range (4.0 to 10.0 mmol/L) was higher in this group. There was no significant difference in the frequency of insulin dose adjustment between both groups. Majority of patients in the flash glucometer group were satisfied with the device.

CONCLUSION

Flash glucose sensing technology was well accepted by diabetes patients observed fasting during Ramadan. The frequencies of glucose monitoring and glucose readings within range were significantly higher in the flash glucometer group. There was no significant difference in the frequency of insulin dosage adjustment.