

## Adult E-Poster

group received bedtime NPH insulin (Insulatard® Penfill®) with dose titration, while the control group continued OAD therapy. HbA1c, fasting blood glucose (FBG), insulin dosage, and hypoglycaemia events were assessed at baseline, Month 3, and Month 6.

### RESULT

Forty-five patients (mean age  $55.1 \pm 9.3$  years, diabetes duration  $9.7 \pm 8.1$  years) were included. At Month 6, HbA1c in the intervention group was significantly reduced by 1.28%, with 26.7% achieving HbA1c  $<8\%$ . Mean FBG decreased by 3.6 mmol/L. Insulin dose stabilized at  $0.33 \pm 0.13$  IU/kg/day. Mean body weight change was +1.78 kg in the intervention group. One patient experienced mild hypoglycaemia.

### CONCLUSION

A patient-guided insulin titration protocol improved glycaemic control in T2DM patients with secondary OAD failure, supporting its feasibility in local primary care settings.

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### A RANDOMIZED CONTROLLED TRIAL TO EVALUATE THE EFFECTS OF DIGITAL HEALTH INTERVENTIONS ON GLYCEMIC CONTROL FOR WOMEN REQUIRING INSULIN THERAPY DURING PREGNANCY

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### INTRODUCTION

There are good evidences advocating the use of digital health intervention (DHI) to complement diabetes care, but this management approach remains under-utilized in our country.

### METHODOLOGY

In this prospective interventional study, pregnant women with Type 2 diabetes (T2D) and a gestational age of less than 24 weeks were randomly assigned to either the DHI (intervention) or the usual care group (control). Participants

from the DHI group were enrolled in the online BioTective™ Disease Resource Center, a digital platform that included a Bluetooth-enabled glucometer connected to a smartphone application. The investigator reviewed the glucose data remotely and provided guidance on insulin titration. The primary outcome was to compare changes in glucose readings between the two groups at five time points. Pre-meal and post-meal glucose readings were analyzed at each time point, and changes in mean HbA1c levels before and after the study completion were also evaluated.

### RESULT

The results presented are from an interim analysis. We have forty-two females randomized equally between the two groups. Most participants were Malay ( $n = 30, 71.4\%$ ), with a mean age of  $33 \pm 34.9$  years, and more than half were multigravida. Thirty-six participants (85.7 %) were receiving basal-bolus insulin therapy, and the mean HbA1c at recruitment was  $7.3 \pm 1.4\%$ . Throughout the study period, the intervention group could achieve pre-meal glucose readings below 5.3 mmol/L at all time points, while the control group had glucose readings above the target at 3 out of the 5 time points ( $p = 0.565$ ). Both groups had post-meal glucose readings below 6.7 mmol/L at all time points ( $p = 0.473$ ). The reduction in mean HbA1c was more pronounced in the intervention group; however, the difference compared to the control group was not statistically significant (intervention:  $6.02 \pm 0.67\%$  vs. control:  $6.46 \pm 0.88\%$ ;  $p = 0.774$ ).

### CONCLUSION

Our interim analysis suggested DHI is comparable to the usual care in managing T2D women requiring insulin therapy during pregnancy.