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generally favourable if the tumour is completely resected and closely monitored.

EP_A172

HIGH PREVALENCE OF PREDIABETES AND VITAMIN D DEFICIENCY IN IBB GOVERNORATE, YEMEN: A CROSS-SECTIONAL STUDY

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INTRODUCTION

Prediabetes and vitamin D deficiency are growing health concerns linked to diabetes progression and its complications, yet their prevalence and association remain underexplored, specifically in Yemen. This study aims to assess the prevalence of prediabetes and vitamin D deficiency among individuals in the Ibb Governorate, Republic of Yemen.

METHODOLOGY

A cross-sectional study involving 1046 participants who met study criteria recruited from various centres in the Ibb Governorate, Yemen, including Jiblah University for Medical and Health Sciences, Medical City Complex, and Al-Noor Hospital. They underwent HbA1c and level of vitamin D determination. Prediabetes was defined based on the American Diabetes Association, using HbA1c between 5.7% and 6.4%. Vitamin D levels of <20 ng/mL and 20-30 ng/mL are defined as deficiency and insufficiency, respectively.

RESULT

The prevalence of prediabetes was 25.7% (269). The mean HbA1c and age were 5.9 + 0.2 % and 41.4 + 10.2 years, respectively. From the prediabetes population, 71.4% (189) had vitamin D deficiency, while 20.7% (54) had vitamin D insufficiency, with a total of 93.1% (243) of prediabetes participants. The mean age for deficiency, insufficiency and sufficiency is 40.80 ± 9.9 ng/mL, 41.3 ± 10.0 ng/mL and 47.8 ± 9.0 ng/mL, respectively. The prevalence of low vitamin D levels (vitamin D deficiency and insufficiency) was slightly higher in males (126, 48.27%) compared to females (117, 44.83%). A significant age difference was observed for the sufficient group compared to both deficiency ($p = 0.01$) and insufficiency ($p = 0.04$) groups. The Chi-square test revealed a significant association between gender and the vitamin D status groups ($\chi^2 = 8.266, p = 0.01$).

CONCLUSION

The significant prevalence of prediabetes and vitamin D deficiency in the Ibb Governorate underscores the need for comprehensive interventions addressing both conditions. Correcting vitamin D deficiency may reduce the progression from prediabetes to diabetes, potentially improving metabolic health outcomes and mitigating associated complications.

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INSULIN INITIATION IN T2DM: OUTCOMES ON GLYCAEMIC CONTROL, BODY WEIGHT, AND HYPOGLYCEMIA RISK

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INTRODUCTION

The prevalence of diabetes in Malaysia is rising due to urbanization and socioeconomic changes. Despite evidence supporting good glycaemic control, maintaining optimal control remains challenging, with mean HbA1c levels ranging from 7.9% to 8.1%. Progressive beta-cell failure leads to secondary OAD failure, necessitating insulin therapy. This study evaluates the effect of a simple insulin therapy protocol on glycaemic control in T2DM patients with secondary OAD failure.

METHODOLOGY

A prospective study was conducted in outpatient clinics at Hospital Kuala Lumpur and Hospital Serdang. Patients with T2DM and secondary OAD failure (HbA1c >9%, fasting plasma glucose ≥9 mmol/L) were recruited. The intervention

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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 ± 9.3 years, diabetes duration 9.7 ± 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 ± 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.

EP_A174

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 ± 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.