OA-A-02

FACTORS CONTRIBUTING TOWARDS EARLY AND LATE CONVERSION FROM GESTATIONAL DIABETES MELLITUS TO ABNORMAL GLUCOSE TOLERANCE POSTPARTUM

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INTRODUCTION

Women with previous gestational diabetes (post-GDM) have a high risk of developing abnormal glucose tolerance (AGT) postpartum, including pre-diabetes and type 2 diabetes. Limited evidence is available on the risk factors present at different timepoints after GDM pregnancy. This study aimed to determine the factors contributing towards early and late conversion from GDM to AGT postpartum.

METHODOLOGY

This cross-sectional study involved 157 women post-GDM (mean age 34.8 years). The study was conducted at Klinik Kesihatan Seri Kembangan and Universiti Putra Malaysia. In total, 83 and 74 respondents were enrolled at early (<1 year) and late (≥1 year) postpartum, respectively. AGT was diagnosed using OGTT. Respondents diagnosed with AGT at <1 year postpartum were designated as early converters, whereas those diagnosed at ≥1 year postpartum were considered late converters.

RESULTS

On average, respondents were overweight and had abdominal obesity. AGT was diagnosed in 17 (20.5%) at <1 year and 17 (23.0%) respondents at ≥1 year postpartum. Compared to the normal glucose tolerance (NGT) group, early converters had significantly lower educational level, bigger household size, higher gravidity and parity, higher rates of recurrent GDM, overweight and obesity, and hyperinsulinemia. Meanwhile, late converters had significantly shorter breastfeeding duration, higher HbA1c, higher rates of pharmacological treatment during GDM and hypertriglyceridemia, compared to their NGT counterparts. Multivariate logistic regression found independent factors for AGT were parity (adjusted odds ratio [AOR] 7.045, p=0.006) and recurrent GDM (AOR 10.045, p=0.028) at early postpartum; and HbA1c (AOR 91.474, p=0.002) at late postpartum.

CONCLUSION

Findings from this study may help in identifying characteristics of women post-GDM who are at high risk of AGT at different timepoints. Continuous diabetes screening and dietary intervention postpartum are strongly recommended to prevent the eventual progression to type 2 diabetes.