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Effectiveness of different dietary interventions on managing Gestational Diabetes and improving pregnancy and newborn outcomes

Sabika Salem Allehdan

University of Bahrain, Bahrain

Statement of the Problem: Gestational diabetes mellitus (GDM) is one of the most common complications of pregnancy that has significant impacts on both mother and her offspring health. The present study aimed to investigate the effect of carbohydrate counting, carbohydrate counting combined with DASH, and control dietary interventions on glycemic control, and maternal and neonatal outcomes.

Methodology & Theoretical Orientation: A randomized controlled clinical trial with three parallel diets (control or carbohydrate counting, or carbohydrate counting combined with Dietary Approach to Stop Hypertension (DASH)) was conducted in 75 pregnant women with GDM between 24th and 30th week of gestation. Fasting blood glucose (FBG), fasting insulin, glycated hemoglobin (HbA1c), and fructosamine were measured at baseline and the end of the study. The participants were asked to record at least four blood glucose readings per day. Maternal and neonatal outcomes were collected from medical records.

Findings: Following the three dietary interventions, resulted in decreased FBG levels significantly among all the participants (P < 0.05). Consumption of the carbohydrate counting combined with the DASH diet showed significant reduction in serum insulin levels compared to carbohydrate counting group and control group. Overall mean of 1-h postprandial glucose (1 h PG) level was significantly lower in the carbohydrate counting combined with DASH group compared with that in the carbohydrate counting group and the control group (P < 0.001). There were no significant differences in other maternal and neonatal outcomes among the three dietary intervention groups.

Biography

Dr. Allehdan is a PhD holder in Human nutrition and dietetics, and she is an assistant professor of nutrition and dietetics at Biology Department at College of Science at University of Bahrain. She is one of the few distinguished and well-known in Bahrain in the field of nutrition.