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Effect of Computer Menu Planning on Maternal and Neonatal
Complications for Pregnant Women with Insulin-dependent
Diabetes Mellitus or Gestational Diabetes

By

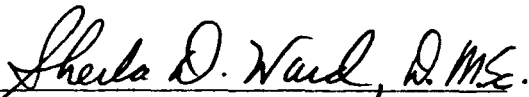
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Abstract

Since the discovery of insulin in 1921, it has become apparent that pregnant women with diabetes mellitus still experience complications with increased morbidity and mortality levels for the neonate. Fetal anomalies account for 40 percent of the perinatal mortalities which are believed caused by poor metabolic regulation during the first seven weeks of gestation. Improved maternal and fetal outcome requires strict maternal glucose control before and throughout the pregnancy.

Gestational diabetes mellitus (GDM) has its onset in one to two percent of all pregnancies. Factors indicative of increased risk for GDM are glycosuria, a first degree relative with diabetes mellitus, history of stillbirth or spontaneous abortion, fetal malformations, or macrosomia in a previous pregnancy, maternal obesity, high maternal age, or a parity of five or more. Screening for GDM requires special screening tests, glucose loading tests, and oral glucose tolerance tests. O'Sullivan's criteria are used for interpretation.

To study the effectiveness of two educational methods, 11 control patients were taught their diet regimens by the routine method and seven treatment patients with a Computer Menu Plan Program (CMPP). The CMPP teaches with slide tape presentations, actual cooking and measuring, and the use of a daily computer menu that satisfies the diet prescription and food preferences of the patient.

The results revealed a significant difference ($p < .03$) when a comparison was made between the two groups about their knowledge of the diabetic diet. The maternal HbA_{1c}, fasting and postprandial blood glucose levels, systolic and diastolic blood pressure, age, weight

gain, educational attainment, creatinine clearance, and weight at conception as well as the gestational age at delivery, APGAR 1 Minute and 5 Minute Scores, and birth weight of the neonate were compared between groups. There was no significant difference in the number of maternal and neonatal complications but there was a difference in the type and severity of complications. There were two major anomalies with one stillbirth in the control group of neonates but none in the treatment group. Statistically the effect of CMPP was not significant, but the significant clinical evidence indicated that the CMPP is superior to the routine method of education.

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