Grace Peterson Nursing Research Colloquium

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Efficacy of Diet Reducing Incidence in Pregnant Women

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### Background and Significance

- Cardiovascular disease is the leading cause of death for pregnant women.
- Hypertensive disorders occur in 10% of pregnancies in the United States (Lowdermilk, Perry, Cashion, & Alden, 2016).
- Hypertension during pregnancy affects health of both mother and baby.
- Estimated savings of $5,817 if blood pressures are tightly regulated with interventions (Ahmed 2016).
- Few studies differentiate which intervention, either exercise or diet modification, is more effective in the pregnant population.
- This study focuses specifically on gestational hypertension and preeclampsia, within hypertensive disorders.

### Purpose and Question

#### Purpose

Analyze clinical interventions to reduce frequency of pregnancy induced hypertensive disorder, specifically diet and exercise, in pregnant women diagnosed with gestational diabetes.

#### Question

In women experiencing gestational diabetes, how does diet compare to exercise in decreasing incidence of pregnancy-induced hypertensive disorder?

### Methodology

- Integrative literature review was used to evaluate and compare efficacy of diet and exercise in pregnancy induced hypertensive disorder diagnoses.
- Literature search was conducted through CINAHL (Cumulative Index to Nursing and Health Literature), PubMed, the Nursing & Allied Health Database (ProQuest), and the Cochrane Library.
- Search terms included pregan* OR Maternal OR Mother; pregnan* hypertens* OR gestation* hyperten*; AND therap* OR treat* OR intervention; AND exercise OR activity; AND diet OR nutrition* OR food.
- Inclusion: 2014-2019, GDM, any BMI
- Exclusion: risk reduction, not measure maternal hypertension.

### Results

#### Characteristics of Interventions

- Control group subjects had routine prenatal interventions and recommendations
- Diet modification consisted of a calorie restricted healthy diet. Thus, participants consumed 1500 kcal/day consisting of low GI foods and low-saturated fat foods.
- Exercise intervention consisted of at least 30 minutes of moderate intensity exercise.

#### Characteristics of Participants

- Participants were pregnant, diagnosed with Gestational Diabetes Mellitus
- Majority of participants were obese or overweight. However, participants of all BMI were included in research.

### Discussion and Limitations

- Integrative literature review demonstrated diet modification was more effective than exercise in reducing frequency of pregnancy induced hypertensive disorders.
- Through low caloric intake, consumption of low-saturated fat foods, and foods with low glycermic index, participant’s cholesterol levels are regulated, leading to lower risk of hypertensive disorders during pregnancy.
- A key component of efficacy was compliance. If participants were not compliant, or combined exercise and diet, no significant reductions were seen compared to control groups.

### Nursing Implications

- With need of reducing frequency of pregnancy induced hypertensive diagnosis, nurses should recommend intervention that patient is able to easily and consistently comply to.
- With current research, patients should include foods that are low in saturated fats, have low glycermic index, and fruits and vegetables in their diet.

### Recommendations for Further Research

- More research needs to be done in efficacy of interventions to produce high quality evidence and results.
- New research can analyze efficacies of different types of diets (i.e. Mediterranean, keto diet, paleo diet, etc.) in reducing frequencies of hypertensive disorders during pregnancy.

### Conclusion

- This integrative literature review aimed to analyze differences in pregnancy induced hypertension frequencies in pregnant individuals undergoing exercise or diet modification.
- The frequency of pregnancy induced hypertension was lower in the diet modification intervention, with compliance being a major anchor to efficacy.