
Grace Peterson Nursing Research Colloquium

Aug 23rd, 9:00 AM

Efficacy of Diet Reducing Incidence in Pregnant Women

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Ladhani, Kanwal, "Efficacy of Diet Reducing Incidence in Pregnant Women" (2019). *Grace Peterson Nursing Research Colloquium*. 21.
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Introduction

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 affect 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

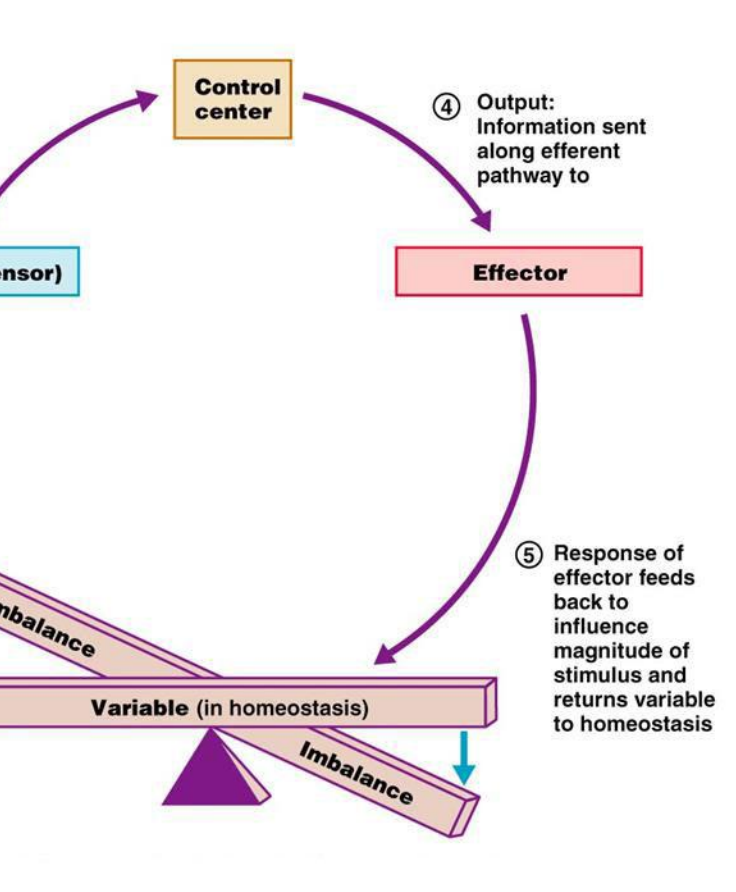
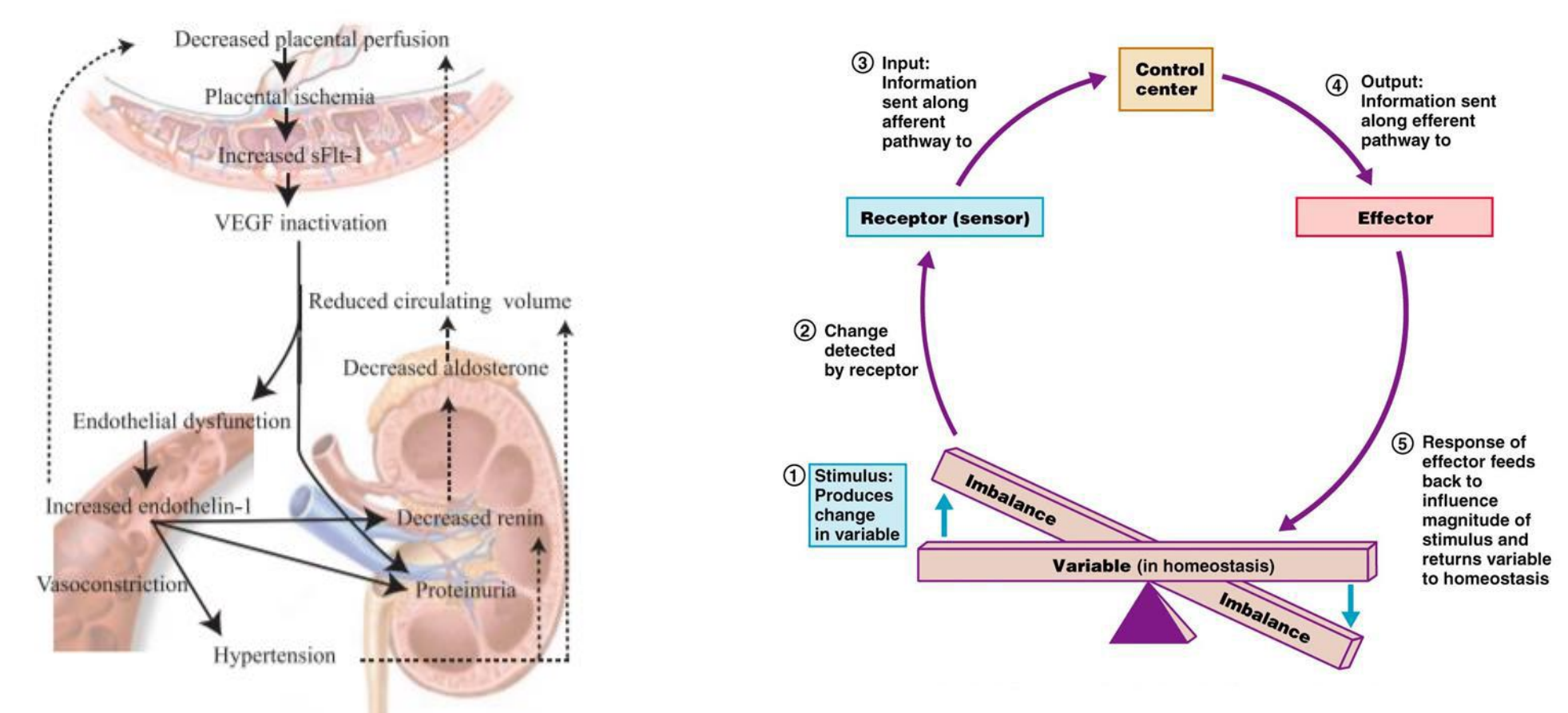
Purpose

Analyze clinical interventions to reduce frequency of pregnancy induced hypertensive diagnosis, 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?

Framework



Walter Cannon's definition of homeostasis is the framework which this research was done.

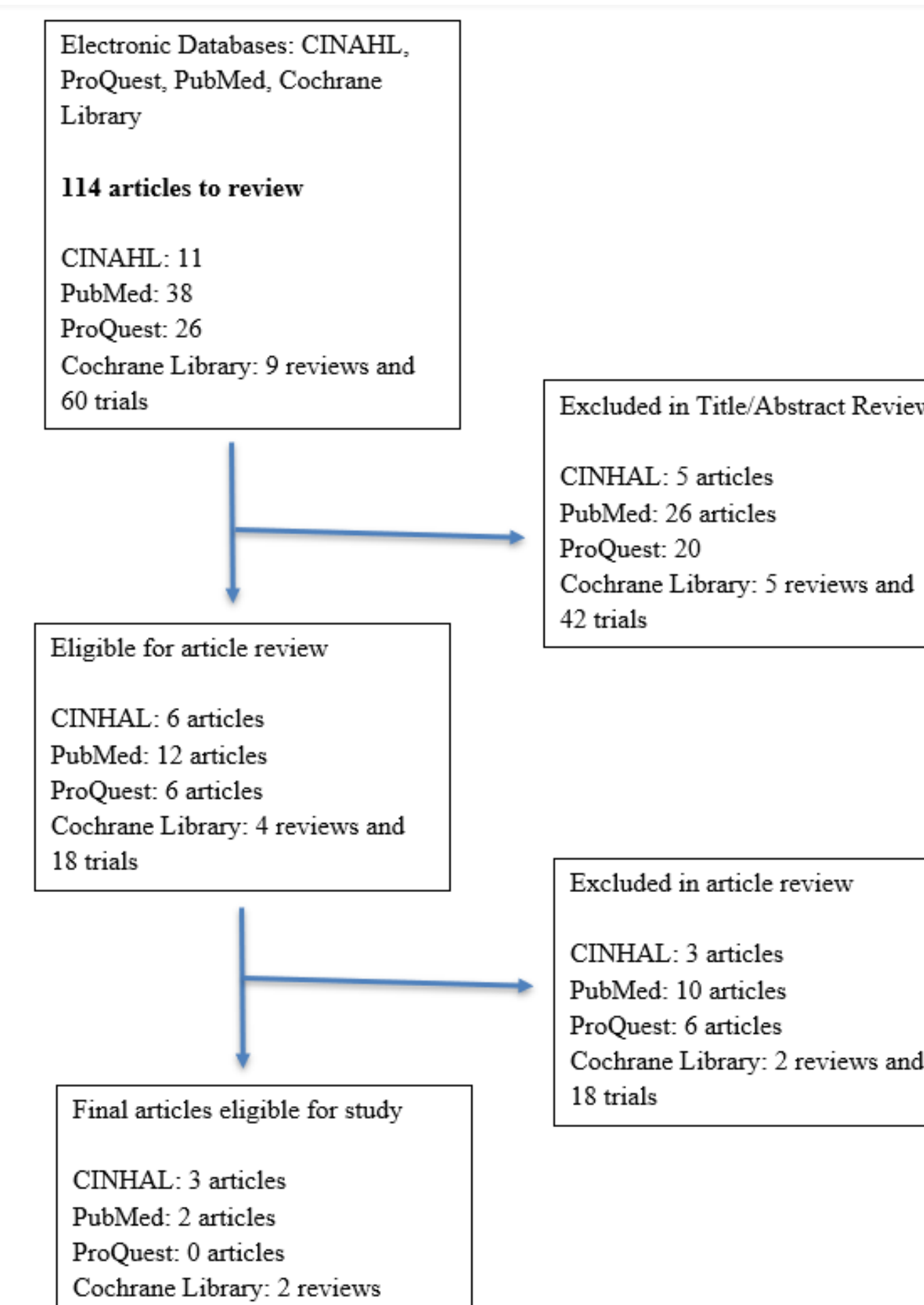
Efficacy of Diet or Exercise in Pregnant Women

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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 pregnan* OR Maternal OR Mother; pregnan* hypertens* OR gestation* hypertens*; 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.

Characteristics of Articles

- Diet Modification: Four studies
- Exercise: Two studies
- Exercise or Diet: One Study
- Co-intervention: Mentioned within seven articles

Findings of Intervention and Frequency of Pregnancy Induced Hypertensive Disorder Diagnosis

- Diet Modification: Statistically reduced frequency of pregnancy induced hypertensive disorders, up to 33% (Allen 2014)
- Exercise: To see at least 25%, must exercise 140 minutes a week (Davenport 2018)
- Cointerventions: No statistically significant reduction.
- For interventions to be effective, participant compliance was key.

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 glycemic 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.

Limitations

- The number of studies are limited in this research, thus limiting applicability of finding.
- The quality of results from studies were low to moderate quality due to inconsistencies.

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 glycemic 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.