

Gestational diabetes
control and
pregnancy outcomes
with pharmacological
therapy ...



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Scholarly Synthesis of Gestational Diabetes Control and Pregnancy Outcomes with Pharmacological Therapy versus Lifestyle Modification

Introduction

Background

Gestational diabetes mellitus (GDM) is a form of diabetes mellitus that only occurs during pregnancy and is familiar with as much as 16% reported and this rate is on the rise across the globe (Wang et al., 2015). Maternal hyperglycemia is established as causing a significantly high glucose transfer to the fetus, which causes the overgrowth of the insulin-sensitive tissues and fetal hyperinsulinemia (Asemi, Samimi, Tabassi & Esmailzadeh, 2014). The resultant excessive fetal growth can cause shoulder dystopia, heightened trauma at birth, or even perinatal deaths. Obesity prior to pregnancy presents a risk factor for GDM, increasing the probability of an adverse pregnancy outcome for mothers and babies (Wang et al., 2017).

Despite the fact that the use of nutritional modification comes across as one of the first lines approaches to treating women with GDM, limited information exists as to the allowance of evidence-based recommendations concerning certain nutritional approaches that include control of fiber content or nutrient distribution in the management of GDM (Asemi et al., 2014). Besides limited information on dietary approaches to the regulation of outcomes in women with GDM, other factors such as gestational weight issues need to be addressed more for improved GDM-related pregnancy outcomes.

Furthermore, even if regular exercise is established as potentially reducing the risk of developing GDM, its efficacy remains controversial (Wang et al., <https://assignbuster.com/gestational-diabetes-control-and-pregnancy-outcomes-with-pharmacological-therapy-versus-lifestyle-modification/>

2017). Medical nutrition therapy is also considered one of the mainstays of GDM treatment and management. Nevertheless, a limitation exists in data concerning the optimal diet that patients can use to attain glycemic control, as well as improved perinatal outcomes (Yamamoto et al., 2018).

According to obstetricians and medical experts, physical exercise and eating a balanced diet are deemed as some of the best lifestyle modification methods that play a significant role in the prevention and management of GDM (Wang et al., 2015). Maternal overweight and obesity issues are pertinent to the framing of this topic on GDM as major contributing factors. These necessitate the conceptual model of BMI (body mass index) as one that determines the success of lifestyle modification (exercise and balanced diet) in improved GDM outcomes in pregnant women. It is important to know that excessive gestational weight gain (GWG) in early/mid-pregnancy and a high BMI before or in the first trimester of pregnancy, are deemed as new GDM identifiers that can be pharmacologically controlled or best managed through lifestyle modification. The nursing theory that helps to frame this topic is Nola Pender's Health Promotion Model. This theory helps to explain that specific activities such as diet and exercise (lifestyle modification) promote the health and wellbeing of the individual (Polit & Beck, 2017).

Purpose Statement

In pregnant females with gestational diabetes mellitus (P), does lifestyle modification (I) in comparison with pharmacological therapy (C) help to improve diabetic control and pregnancy outcomes (O)?

Methods

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Various academic databases were used in the retrieval of literature to be used in the paper. A comprehensive literature search was conducted through online biomedical databases, as well as specific literature resources. These databases included CINAHL, JEWL, ProQuest, EBSOhost, Ovid, JSTOR, and MEDLINE/PubMed, which are search platforms recommended for systematic literature reviews in the healthcare professions by the United States National Library of Medicine (NLM). These large databases, when combined with a general Internet search using Google Scholar, created the opportunity of maximizing the number of relevant papers found in the search.

From the initial search performed using the medical-related databases, a comprehensive literature review was performed to assess, critically examine, as well as synthesize the information that was obtained from these databases. Instead of an Internet-wide search though, these databases came in handy when narrowing the search to specific articles on GDM.

The systematic review carried out in this paper entailed a search strategy to assess and find articles for inclusion and eligibility through the application of various filters and keywords. The search was based on several key terms that included gestational diabetes mellitus, pharmacological therapy, exercise, balanced diet, and lifestyle modification. Several combinations of these keywords were used to find the relevant sources in answering or addressing the research question. With the appearance of many articles after a preliminary search, only the scholarly and peer-reviewed papers on these topics were chosen.

Another vital filter when searching for articles entailed a strict definition of the time frame for narrowing in on the most relevant publications to be used. In most academic writing and for professionalism purposes, the literature sought after is usually that which falls within five years of the current date. Therefore, the publications used in this case had to be those between 2013 and 2018.

Results

The articles included in this paper were mostly original research studies conducted using randomized clinical control tests or trials for empirical data and quantitative analysis. The articles used can be described as formulating evidence-based recommendations when it comes to lifestyle modification as a way of controlling GDM. Therefore, the empirical nature of the studies shows that logical conclusions could be drawn from the results obtained when conducting the randomized control trials.

The PICO question identified the pregnant women as the population being studied with the themes of obesity and being overweight featuring prominently in the literature. These themes are considered as significant risk factors for the development of GDM. The theme of pharmacological therapy also features a lot with insulin-related treatment being considered in how it compares to the proposed intervention, which is lifestyle modification. According to the literature, lifestyle modification mostly features exercise and dietary considerations. Improved health outcomes are captured in the preventive theme that is abundant in the literature, even as most studies performed randomized clinical trials. Asemi et al. (2014) found that dietary

interventions such as the DASH diet lessened the need for insulin down to 23% in comparison to that of the control group which still needed insulin therapy up to 73%. Symons Downs, DiNallo, Birch, Paul, and Ulbrecht (2017) also found that exercise is effective in decreasing the need for pharmacological therapy with GDM as well as improving the outcomes of a GDM pregnancy.

The underlying assertion or prevalent theme from responding to the PICO question is that of prevention being better than cure. GDM is a particular type of DM that has been receiving increased attention among providers due to the consequences for both mothers and babies. Different therapies, pharmacological (insulin) and non-pharmacological (nutrition/diet and exercise) are necessary for the treatment and management of patients with GDM (Wang et al., 2017). Pharmacological therapies are instituted once the patient has presented with symptoms of DM when pregnant. Non-pharmacological therapies can be adopted even before diagnosis with the disease. Therefore, the non-pharmacological therapies compare favorably to their pharmacologic counterparts since they offer more preventive care that has better or improved overall health outcomes. This non-pharmacological therapy relates to the nursing theory of Nola Pender that was chosen for this topic in that the individual can help to improve their wellbeing by self-care through lifestyle modification.

GDM is a medical condition that is frequently witnessed during pregnancy and often described as being an intolerance to glucose upon the beginning of pregnancy (Benhalima et al., 2015). Since physical exercise is an excellent way of controlling weight and staying healthy, healthcare professionals are <https://assignbuster.com/gestational-diabetes-control-and-pregnancy-outcomes-with-pharmacological-therapy-versus-lifestyle-modification/>

increasingly recommending this for GDM prevention and management (Kgosidialwa et al., 2015). Eating a balanced diet at the correct time is also helpful in the attainment of glycemic control while reducing treatment costs by eliminating the need for insulin (Kanani & Leuva, 2017). At the moment, the initial treatment for GDM is medical nutrition therapy with more randomized controlled trials needed for the comparison of various dietary strategies (Moreno-Castilla et al., 2013). Regular exercise can potentially lower the risk of developing GDM and can be utilized in the pregnant population (Moreno-Castilla et al., 2013). It is known that pharmacological methods are available to help control GDM and therefore improve outcomes of pregnancy, but the current literature suggests that lifestyle modifications (diet/exercise) can be sufficient in the control of GDM without pharmacological therapy reliance.

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