Example of critical thinking on overview of jbi model

Law, Evidence

Reflection on Clinical Practice

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Introduction

In advanced nursing, acute care of pregnant women is an important part. The challenge that is common in this field of nursing is that the nurse must consider the wellbeing of the developing fetus in addition to that of the mother before taking any interventions. One of the first cases I handled was that of Mr. & Mrs. Peterson. I met Mrs. Jessica Peterson, 31 while she was 4 months pregnant after she was diagnosed with gestational diabetes mellitus. From her medical records, this was her second pregnancy with the first one having ended in a miscarriage at 27 weeks. Jessica had a weight problem since high school and currently weighed 161 pounds at 5’1”. My duty was to provide care for her and the unborn child. Regular diabetes management strategies aim at maintaining blood sugar on the normal range on a long term, and Jessica needed a fast acting intervention to prevent complications with her unborn child. Like in type 1 and 2 diabetes mellitus, the routine management for gestational diabetes is centered on diet, physical activity and insulin balance in the body. For a pregnant woman, diet should consider the needs of the developing fetus and physical activity may not be practical especially in the third trimester. The lack of clear management interventions for gestational diabetes got me thinking on the need for evidence based interventions for the condition.

This reflection seeks to find evidence for effective management interventions for gestational diabetes. To this end, the JBI reflection model will be used due

to its suitability in generating evidence for clinical application. The JBI model is conceptualized around four steps; health care evidence generation, evidence synthesis, evidence transfer and evidence utilization (Person, Stern & Weeks, 2011). In addition, the model allows the identification of various classes of evidence such as evidence of effectiveness, evidence of feasibility, evidence of meaningfulness and evidence of appropriateness.

Background

Diabetes mellitus is a common chronic condition that causes morbidity and a high health burden. Diabetes is a metabolic disorder that is characterized hyperglycemia resulting defects in insulin secretion or action (MELLITUS, 2011). It is classified into three types. Type 1 diabetes mellitus occurs due to low production of insulin. It can occur in children and is commonly managed through insulin injections. Type 2 diabetes mellitus occurs later in life and is characterized by defects in insulin utilization in the body. Jessica had been diagnosed with the gestational diabetes mellitus which is found in pregnant women.

Gestational diabetes mellitus has serious health consequences including affecting the unborn child and increasing the risk of type 2 diabetes mellitus. It is therefore important to have evidence based interventions that are effective for management of gestational diabetes mellitus especially for first time mothers to avoid the risk of type 2 diabetes later in life. The current clinical management for gestational diabetes focuses on lifestyle changes and medication. The pharmacological interventions adopted should be safe to the developing fetus. I have seen sulphonylurea based drugs such as

Glyburide and Metformin used. This reflection will evaluate evidence to support or reject these interventions.

Discussion

The JBI conceptual model originated from the University of Adelaide and Royal Adelaide Hospital in South Australia. Its primary role is to promote global health by translating research evidence into practice. The model focuses on grounded research studies that use tested methodologies to provide evidence. The JBI model can be broken down to four steps of evidence generation, synthesis, transfer and utilization. Evidence for application in nursing practice is generated from research work published in peer reviewed journals (Person, Stern 7 Weeks, 2011). Synthesis involves a critical appraisal of the research by evaluating the adopted methodology to determine suitability and credibility of the research. When credible evidence has been identified from research work, it is transferred to nursing practice where it is utilized to improve health outcomes.

Gestational Diabetes Mellitus

Gestational Diabetes mellitus is a temporarily type of diabetes that is characterized by high blood glucose levels in pregnant women who have no history of diabetes and the blood sugar level usually reverts to normal immediately the woman gives birth (Leader, 2012). The prevalence rate for gestational diabetes mellitus varies widely with the population under study due to risk factors such as ethnicity and genetics. Generally the rate is between 3-10% of pregnant women (Leader, 2012). Despite the low prevalence, the high number of pregnant women at any one time makes

gestational diabetes to be a common condition in acute nursing care. Besides hypoglycemia which is detected through screening, the other symptoms of gestational diabetes mellitus are blurred vision and polydiosia. The temporally nature of gestational diabetes mellitus, the lack of critical symptoms and limited understanding of the etiology of this condition make it hard to implement appropriate interventions to combat the condition. The seriousness of gestational diabetes mellitus can be understood by evaluating its long term effects.

Gestational diabetes mellitus can affect both the mother and the developing fetus. The mother suffers the symptoms of the disease. In addition, suffering from gestational diabetes mellitus increases the risk of developing the same condition in subsequent pregnancies by over 50% (Landon & Gabbe, 2011). The most significant risk associated with gestational diabetes mellitus to the mother is developing type 2 diabetes mellitus later in life. Bellamy et al., found that women who had developed gestational diabetes while pregnant had an increased risk of developing type 2 diabetes mellitus compared to women who had a normoglycaemic pregnancy (2009). This study was a systematic review and meta-analysis of 20 cohort studies that had 675, 455 participants. The effects of gestational diabetes to the fetus include low blood sugar, jaundice, being too large for a given gestational age, and still birth. Babies that are too large for their gestational age is a common problem when the mother has any type of diabetes and often leads to complications during birth (Feghali et al., 2012). Some risk factors associated with gestational diabetes mellitus during pregnancy include; a previous incidence of gestational diabetes, impaired glucose tolerance, age, race,

genetics, weight and obesity, smoking, and a history of children born with macrosomia. Of these risk factors, obesity has been associated with over 50% of all gestational diabetes mellitus incidences (Kim et al., 2010). Obesity is a largely preventable condition hence this should be the starting point in the prevention of gestational diabetes mellitus. This observation is supported by Hedderson, Guderson & Ferrara who conducted a nested case control study with 1145 multiethnic participants and found that gestational weight gain early in the pregnancy increases the risk of the mother developing gestational diabetes mellitus later in the pregnancy (2010).

Because of the mild symptoms of gestational diabetes mellitus, blood sugar tests for pregnant women are recommended. Early detection of gestational diabetes reduces later complications (Horvath et al., 2010; van Leeuwen et al., 2011). Currently screening is the most effective method to diagnose gestational diabetes mellitus. However, cost concerns reduce the number of pregnant women who get screened for gestational diabetes. Round et al., conducted a cost-utility analysis for screening of gestational diabetes mellitus and recommend individualized screening strategies that consider the risk of gestational diabetes on an individual case (2011). Screening for gestational diabetes mellitus is done through Glucose Screen (GS) or through the Oral Glucose Tolerance Test (OGTT). In clinical practice screening is done in one step (GS only) or in two steps (GS and OGTT). From a randomized controlled trial, the two step method has a higher efficacy and significantly higher costs (Meltzer et al., 2010).

The management of gestational diabetes mellitus centers on lifestyle changes for mild cases and pharmacological interventions for severe cases.

The lifestyle change interventions used in the management of gestational diabetes include diet change and regular moderate physical activities. The adopted diet should provide sufficient calories for the mother and developing fetus but avoid peaks in blood sugar levels. Therefore, patients are advised to spread carbohydrate intake throughout the day (Louie et al., 2011). Moderate exercises ensure the utilization of ingested calories and prevent development of obesity which is a significant risk factor in all types of diabetes. Insulin therapy is the most common intervention used for severe gestational diabetes mellitus (Landon et al., 2009). Some drugs used in severe cases of gestational diabetes mellitus have efficacy of similar level to insulin therapy. The most commonly used drug is Glyburide because of its lack of negative effects on the fetus (Kremer & Duff, 2004; Langer et al., 2000). From a randomized controlled trial by Rowan et al., Metformin has similar efficacy to insulin therapy, does not promote gestational weight gain and is hence preferred by women to insulin injections (2008). Similar results were obtained by Simmons et al., who evaluated the general efficacy of Metformin therapy during pregnancy in controlling gestational diabetes (2004).

According to the JBI model, evidence synthesis determines the suitability of the collected evidence. For evidence to be applied in nursing practice, it must be safe, timely, suitable, and effective. For application to clinical practice, evidence must be safer than the existing interventions for similar levels of effectiveness. The evidence that is drawn above comes mainly from randomized controlled studies and cohort studies which are effective methodologies in giving health evidence. In addition, the research used has

been published in peer referred journals which ensures that the research is passes the test for scientific rigor.

Implications of the Reflection to Nursing Practice

Current practices of diet and moderate exercises coupled with pharmacological interventions for severe cases are effective but do little to prevent future occurrence of the condition. These interventions do not alleviate the risks associated with gestational diabetes such as macrosomia in the fetus and development of type 2 diabetes in the mother later in life. There is a need for a holistic approach to the management of gestational diabetes mellitus. To develop this practice, a reflection based on the JBI model was conducted. In this section, the fourth step of the model, evidence utilization, is evaluated.

The most significant finding is evidence that obesity is the cause of over 50% of all cases of gestational diabetes mellitus. In addition, gestational weight gain has also been linked to higher chances of developing gestational diabetes mellitus. Obesity and gestational weight gain are risk factors that can be controlled through regular exercise and eating healthy diets. This evidence indicates that management and prevention of gestational diabetes should begin long before the woman is pregnant. In terms of nursing practice, this means that there is a need for education of women of birthing age on the risk factors associated with obesity while planning to get pregnant or even weight gain when one is pregnant. Education should also focus on weight management strategies in particular physical activities and diet to empower the women (Lapolla, Dalfra & Fedele, 2009). Prevention of

gestational diabetes will be the primary management strategy I will encourage.

For women who have already contracted gestational diabetes, insulin therapy and pharmacological interventions such as use of anti-diabetic medication is recommended (Paglia & Coustan, 2009). In addition, there is need for pregnant women to undergo screening so that cases of gestational diabetes can be determined and treated in time to avoid complications. To develop professionally in nursing, I will adopt reflection as an integral practice in the determination of evidence for clinical application. To this end I commit to continuous training to keep in touch with the latest developments in nursing practice. In addition, I will evaluate all routine procedures used in nursing care for evidence of their effectiveness and appropriateness in providing quality care to patients.

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Appendix 1. 0: The Story of Jessica Peterson

Jessica Peterson, 31 and her husband Greg Peterson, 33 had met in college and married when Jessica was 25 years. Because of their busy careers in insurance sales, they did not try to get pregnant immediately. In addition, Jessica was worried about her weight. She described her weight problem as “ a cycle of gaining weight all year round and loosing it in the summer only to gain it again.” At 5’2”, she had weighed 190 pounds when she was 26 years. By contrast, Greg was a member of weight watchers and maintained his weight well. When Jessica was 28, and had reduced her weight to 150 pounds the couple got pregnant on their first child. Jessica attended prenatal clinic but was not tested for gestational diabetes. She lost the pregnancy to a miscarriage at 27 weeks. The couple was devastated but three years later, they got pregnant again. Jessica is four months pregnant and has been diagnosed with gestational diabetes. She was referred to my nursing unit for advanced care. As a nurse, I have a duty to provide care for Jessica and her

unborn child. Management for gestational diabetes is centered on lifestyle changes and medication fore severe cases. To provide the best care, there is need for evidence to support the interventions I will take. This got me thinking on how to generate evidence for the care of gestational diabetes patients since it is a common condition in the nursing unit I work for.