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Perceptions of Using Complementary Alternative Medicine During Pregnancy for Nausea and Vomiting

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Abstract

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Master of Philosophy in Health Education and Promotion, Walden University, 2020

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Dissertation Submitted in Partial Fulfillment

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Abstract

Nausea Vomiting during Pregnancy (NVP) conditions have commonly occurred among pregnant women during gestation for more than 4,000 years. The purpose of the multicase qualitative design was to examine and improve the understanding of perceptions of pregnant women experiencing nausea and the potential use of Complementary Alternative Medicine (CAM) modalities to treat NVP symptoms. In this study, the Health Belief Model six core constructs provided the foundation for the theoretical framework for the process, explaining how working pregnant women experience decision-making and relate to the daily challenges associated with pregnancy. The research questions examined experience of coping with NVP and symptoms among a sample of women who were pregnant, the perceived benefits and barriers of using CAM, and what factors influenced the decision-making process of deciding how to treat NVP. A total of 12 participants completed semistructured telephone interviews. The data were analyzed using qualitative thematic methods for extracting themes. The data analyzed generated eight themes with a total of 24 primary and secondary codes critical to the research questions. All the participants noted some benefits of recovery using CAM for their care and their health status changed during NVP. The themes addressed the experience of signs/symptoms, problems with barriers, recovery from NVP, knowledge and understanding the use of CAM, as a result the participants health status changed. Important implications for social change include improved health education services and strategies developed for first-time pregnant women and their unborn child, who are seeking to make informed decisions about NVP and CAM.

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Dedication

I dedicate this work to the memory of my late parents, Ewan Selwyn, and Maggie Tomesena Blackett, my late Aunt Iona Blackett, my late maternal grandmother Marie Porter Best, and my late paternal grandmother and paternal grandfather, Althea and Dennis Blackett who all instilled a virtue that has aided me in overcoming numerous obstacles. One could not have asked for a more devoted, loving, caring, and supportive family and parents that taught me to see motherhood as a gift. I also dedicate this work to first-time pregnant women who experience nausea and vomiting during pregnancy, that they gain knowledge for the multiple options of using Complementary Alternative Medicine to alleviate discomfort for themselves and their unborn child to live happier and healthy lives. Lastly, I extend sincere admiration, and gratitude, to the research participants an amazing group of twelve mothers who participated in this research, despite their busy schedules. Deep appreciation for commitment of their time to this research and providing candid and transparent description of their perceptions with Nausea Vomiting during Pregnancy.

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Chapter 1: Introduction to the Study

In the United States, over 85% of pregnant women experience nausea and vomiting during pregnancy (NVP; Bowman et al., 2018; Johnson et al., 2016; Koc et al., 2017; Shawahna & Taha, 2017). Pregnant mothers experiencing various levels of morning sickness and hyperemesis gravardium have specific concerns for their health and their growing fetuses (Forbes, 2017; Frawley et al., 2015; Holden et al., 2015; Sullivan & McGuiness, 2015). NVP during pregnancy impacts more than 85% of all expectant mothers and impacts their physical health, and psychosocial quality of life (Conde et al., 2016; Revell, 2017; Shawahna & Taha, 2017). NVP is a common condition that is specific to women who experience the initial symptoms during the first trimester, with only 23.5% to live with symptoms well into the third trimester (Conde et al., 2016; Heitman, 2017; Revell, 2017). Both patients and physicians are hesitant to use medications during pregnancy, especially in the first trimesters due to the possibility of harming the unborn fetus (Shawahna & Taha, 2017).

Women can experience the feeling of nausea and vomiting, beginning with a sense of queasiness upon arising to start their day, called morning sickness (Almond, 2016; Revell, 2017). Although morning is the most common time of the day to experience this discomfort, it can also happen throughout the day, or during the night (Revell, 2017). During a systematic review of the literature, discussed in Chapter 2, there was little research that identified or explained the perceptions of women who have experienced NVP. Understanding this experience, from the perspective of women who have gone through this time-period is critical, as often women may feel challenged to

find a way to help themselves feel better and function successfully. However, despite its common nature, there remains little to no research explaining the perceptions and pathways for how women experiencing NVP are relieving their symptoms. The current study addressed this gap by identifying the perceptions of women who have experienced NVP during pregnancy.

Pregnant women can get information to help them cope with pregnancy in many ways, including from other women, family, friends, magazines, doctors, the medical field, and a variety of self-help pregnancy manuals. Pregnant women experiencing NVP may become interested in complementary alternative medicine (CAM) as a pathway to address symptoms that come with pregnancy because it is perceived as natural (Frawley et al., 2015; Sullivan & McGuiness, 2015). However, it is unknown whether this assumption is accurate. Other research indicates that women are concerned about their safety and the lack of regulatory guidelines using over-the-counter drugs (Holden et al., 2015; World Health Organization [WHO], 2016). Women are not confident with their primary health care physician's current level of knowledge about CAM and the safety of their unborn child (Chartatos et al., 2015; Haas, 2018; Heitman et al., 2016; Heuvel et al., 2016; McKeracher et al., 2015).

According to Ahmed et al. (2018), pregnant women have little knowledge about the safety of using CAM. This lack of knowledge influences their use or failure to use alternative methods. However, some women do seek the use of CAM to prepare for labor and to increase their options of giving birth to a healthy child (Mitchell, 2016). The challenge remains that conflicting research on the perceptions of CAM by women comes

from researchers' assumptions that include interpretative research that did not include sampling the perceptions of the population of interest. I sought to address the gap related to this specific area of concern by identifying the perceptions and beliefs of women in their use of CAM as a pathway for addressing symptoms of NVP during pregnancy. I also explored how the individuals decide, to use or not to use CAM as part of their pathway for symptom relief and explain their process for making an informed choice.

Chapter 1 includes the background of the capstone study to address the problem statement, the purpose statement, research questions, theoretical framework, and the nature of the study. In this study, I provide comprehensive definitions of key constructs that identify the meaning of terms related to NVP, a discussion leading to an overview of assumptions, scope, delimitations, and review limitations of the research indicates how crucial. The significance of this study for the population is explained. Chapter 1 concludes with a segue and preview of the literature review.

Background

The background for this study includes a review of pregnant women who experienced NVP, the application of CAM to address NVP, and their use of CAM (Frawley et al., 2015). This section provides a summary of the literature explored in Chapter 2. The justification for the importance of the study concludes the section.

Pregnancy can also introduce nausea and vomiting in the early days, weeks, and months (Revell, 2017). While most often impacting women in the first trimester, it can last the entire pregnancy (Revell, 2017). The precise causes of etiology and pathophysiology of nausea and vomiting are still unknown (Forbes, 2017; Onyiapat;

2017); however, the condition is an early indication of pregnancy in humans (Almond, 2016; Augenbright, 2017).

It has been hypothesized that the main causation of this common condition of pregnancy is probably due to hormonal changes (Ozgoli, 2018). According to Ozgoli (2018), 50% of pregnant women suffer from nausea and vomiting and 25% suffer from only feelings of nausea. Enhanced cases of NVP can impact the mother's health, especially when followed by symptoms that include dehydration, retching, acidosis, alkalosis, and weight loss (Forbes, 2017; Ozgoli, 2018). Some pregnant women also present prolonged, harsher, and more persistent form of vomiting known as hyperemesis gravidarum which can lead to a variety of complications, such as dehydration, electrolyte disturbances, damage to the liver, of the developing fetus, and in extreme cases, the death of the mother and her fetus (Ozgoli, 2018).

Even in its milder forms, NVP can often produce a negative impact on women's psychological and physiological levels of stress, to include their daily activities, social functions, and work capabilities (Revell, 2017). Moderate to severe NVP can be so devastating that women have reported considering terminating at least one pregnancy devoid of any future-plan, which further illustrates the negative impact of NVP on reproduction (Boelig et al., 2017; Heitmann, 2017; O'Donnel et al., 2016).

According to the World Health Organization (WHO, 2018), the expansion of traditional and CAM has become a worldwide phenomenon and may be one potential pathway that pregnant women seek for symptomatic relief of NVP. There is a growing mistrust of the side effects related to pharmaceutical products coupled with the desire for

more non-traditional medicines (Pirincci, 2017). According to Pirincci (2017), education regarding CAM should be included in programs for healthcare professionals. WHO reported over three quarters of the world's population trust CAM for health care use (Pirincci, 2017). This explains the increase in use of herbal remedies otherwise known as CAM (Stanisiere & Lafay, 2018). However, this pathway comes with recommendations that the use of CAM practices is scientifically examined with clear information about their effects to prevent harmful practices.

Currently, more than 100 million educated European women use CAM regularly, with a wide-ranging prevalence varying from 5.9 to 48.3% (Stanisiere & Lafay, 2018). Studies revealed positive and safe feedback of women who use herbal remedies during pregnancy. (Kennedy et al., 2016; Stanisuere & Lafay, 2018). Globally, the number of pregnant women who use CAM ranges from 55% up to 96% (Onyiapat, 2017). Pregnant women who live in Northern Turkey showed that the use of CAM varies across countries; however, the ratios of usage are rising among pregnant women between the reproductive age group of 19-30 years (Aygul et al., 2017; Frawley et al., 2015; Sullivan & McGuiness).

The ages of the women targeted for my NVP study were between the ages of 19-30. The reproductive years for women are in their late teens and mid 20s. Fertility starts to wane by age 30, with the decline decreasing natural pregnancy by age 45 for most women (American College of Obstetrics and Gynecology, [ACOG], 2020). As a result, the age range selected for this study is among women ages 19-30 years of age (ACOG, 2020).

In the United States, more than one-third of the population is using CAM methods (Frawley et al., 2015; Holden et al., 2015; Hwang et al. 2016; Sullivan & McGuiness, 2015). One-third of healthcare professionals have reported that they are willing to recommend the use of CAM to pregnant women, with those majority (60.2%) agreeing that there was some value in CAM use during pregnancy (Stanisuere & Lafay, 2018). This leaves the safety of CAM as a key concern, considering that the safety and efficacy of CAM used during pregnancy is limited. Whereas most states update and regularly document regulations related to herbal substances, products, and CAM according to the most recent scientific assessments (Stanisuere & Lafay, 2018). However, there is little toxicological data coming from studies on pregnant women currently available (Stanisuere & Lafay, 2018).

Contradictions in culture, common knowledge, and medical certainty create a potential conflict and leave the question about as to how pregnant women reach an informed choice if information on choices is limited. It is crucial that women know when to incorporate self-care and when to seek an intervention from their primary health care provider (Revell, 2017; Shawana & Taha, 2017). NVP is often self-managed, and there is a lack of information on regulation and the topic of CAM (Frawley et al., 2015; Heitman et al., 2015; Hwang et al., 2016). What little information individuals can find is often from unconfirmed sources on the internet (Pallivalappila et al., 2015). Individuals, such as family and close friends, may recommend ideas they see related to CAM and the symptoms of pregnancy.

Pregnant women need to have access to quality information that can assist them in making informed decisions. Experiencing both nausea and vomiting can reduce the women's quality of life and impact their professional and social life (Holden et al., 2015; Hwang et al., 2016; Kennedy et al., 2016; Pallivalappila et al., 2015; Revell, 2017). It is unknown whether women may be more susceptible to try untested or unregulated herbal methods if they come from the recommendation of a trusted source.

CAM is considered a treatment that is used for pregnant women experiencing NVP (Stanisuere & Lafay, 2018), with regulatory approaches targeted to protect pregnant women by ensuring that CAM therapies and treatments are safe and of high quality in at least some cases (Kennedy, 2016; Stanisuere & Lafay, 2018). For example, according to Stanisuere and Lafay (2018), ginger is recognized as a common nonpharmacological in Europe. It is considered a common herbal remedy sold as a food supplement that has medicinal qualities not regulated by the FDA, but it is a common remedy used to treat nausea (Argenbright, 2017). However, the use of CAM is not recommended by all countries for pregnant women. There are over the counter remedies that are contraindicated, leaving pregnant women without reliable sources of information (Stanisuere & Lafay, 2018;).

Self-diagnosing, adjusting the dosage of over-the-counter treatments, or using therapies without appropriate regulation or doctor knowledge is dangerous without an understanding of all possible information (Stanisuere & Lafay, 2018). These barriers require increased research validation and standards to yield respectable outcomes (Kennedy, 2016). To address this gap in knowledge, I sought the viewpoints of pregnant

women who have used CAM during NVP to learn more about their perceptions, barriers, and to understand the steps in their decision-making process in their use of CAM for the treatment of their symptoms.

One challenge related to research into NVP is that there exists a cultural and physical perception that nausea and vomiting, to some extent, is a natural part of pregnancy (Kennedy, 2016). This implies that concerns, feelings of discomfort, or a desire to end NVP may be misconstrued by primary care practitioners, professionals, and health educators when expressed by a pregnant woman (Haven, 2019). The biological acts of nausea and vomiting could have beneficial and potential lifesaving qualities during pregnancy, such as steering a pregnant woman away from potentially harmful foods and substances (Almond, 2016; Forbes, 2017). Similarly, food cravings can be a common biological occurrence during pregnancy guiding food selection, and are often anticipated during pregnancy (Forbes, 2017).

The cultural and medical perceptions of NVP being a normal part of the pregnancy experience could create situations in which a woman perceives herself at risk, becomes at actual risk, experiences a lack of support, is left undiagnosed, and experiences a host of unnecessary complications of NVP (Argenbright, 2017). NVP can range from mild to more severe cases of pregnancy discomfort, with the most severe leading to a medical condition known as hyperemesis (Argenbright, 2017; Haven, 2019). There are a number of negative effects which are experienced as a result of the consequences of NVP that exist beyond the potential physical consequences, including psychological, and the psychosocial burden (Argenbright, 2017; Revell, 2017). Pregnant women who live in

Northern Turkey and the United States showed that the use of CAM varies across countries; however, the ratios of usage are rising among pregnant women between the reproductive age group of 19-30 years (Aygul et al., 2017; Frawley et al., 2015; Sullivan & McGuiness).

The research of specific CAM therapies is growing. I sought to contribute to the current body of knowledge by providing the perceptions of women who have experienced NVP, their experiences with CAM, and their steps in making the decision to doing so. This knowledge provides needed insight for health educators on better understanding their population, and to bridge the gap of health literacy from the perspective of those they hope to serve. Results may inspire the development of educational approaches to promote healthy lifestyles and lay the foundation for healthy behaviors.

Problem Statement

NVP is a common symptom of pregnancy that can have a critical impact on the mother-to-be and her fetus (Brown, 2016; Heitman et al., 2016; Revell, 2017). The presence of morning sickness can begin as soon as 6-8 weeks and last for upwards of 16 weeks from the onset of the early stages of pregnancy. If left untreated, morning sickness, otherwise known as NVP, can develop into advanced stages ranging from mild NVP to severe hyperemesis gravidarum, hospitalization, and more (Brown, 2016; Heitman et al., 2016). Contrary to its name, NVP can occur at any time of day and last for the duration of the pregnancy (Ozogli, 2018). Currently, approximately 80-90% of women experience nausea and vomiting some time during pregnancy (Heitman et al., 2016). NVP is considered one of the most common complaints found amongst pregnant women

encountered by approximately 80% of the pregnant women's population worldwide (Heitman et al., 2016; Ozogli, 2018).

Women can choose to use CAM to address NVP. In a report, over 85% of pregnant women are now seeking alternative options using CAM (Chortatos et al., 2015). However, pregnant women who are self-prescribing and using CAM methods may be creating a severely complicated situation for themselves and the unborn child if they are doing so without sufficient information or care (Frawley et al., 2015; Johnson et al., 2016; Pallivalappila et al., 2015; Revell, 2017; WHO, 2016). The National Center for Complementary and Alternative Medicine (NCCAM, 2016) classified CAM methods under the following categories: mind-body medicines, biologically based practices, manipulative and body-based practices, energy therapies, and whole medical systems. According to Sullivan and McGuiness (2015), one-third, 37% of pregnant women reported the use of CAM and 28% of postpartum women between the ages of 18 and 49 had used at least one or more CAM methods. There is a lack of strong evidence of robust data to support women's motivation for safety, efficacy, and communication. The results suggest that CAM use could be hazardous for mother and fetus. There is a close relationship between women, their perceived philosophical underpinnings, and a heightened sense of a self-determined attitude to experience a safe delivery. (Bowman et al 2018; Hwang, 2016; Sullivan & McGuiness, 2015). Pregnant women desire that childbirth educators create informed educational programs to include CAM (Sullivan & McGuiness, 2015). These findings could become crucial to practitioners, policy, lawmakers, governing bodies, and researchers to provide the perceptions of CAM use for

women during NVP (Bowman et al., 2015). According to Hwang et al. (2016), there are unknowns about how women's attitudes are related to NVP, addressing symptoms of CAM, or how they make informed choices. Additional studies are necessary to gain insights into the field of CAM-related to NVP (Hwang et al., 2016; Mitchell, 2016; Sullivan & McGuiness, 2015). The emphasis is on developing a robust Health Education Program (HEP), diminishing barriers, and for CAM to reveal a positive transformational effect for women who are pregnant CAM (Holden et al., 2015; NCCAM, 2016).

Purpose

Exploring the perceptions and beliefs of women who have experienced NVP can be a catalyst for positive social change. The purpose of this multiple case qualitative research was to improve the understanding of perceptions of experiences related to women who have experienced NVP ages 19-30, gain insight into perceptions for women and the potential use of CAM modalities to treat NVP symptoms, and how the decision-making process occurred for them in making a decision to or not to pursue its use. I applied a participatory framework of the Health Belief Model (HBM) to better understand the perceptions of the community under investigation from the view of the members themselves (Glanz et al., 2015). Planning the development of an intervention using the HBM begins to solve problems. It lays the framework to apply health belief theories along with their six constructs to change behaviors and apply ideas to a health invention program for pregnant women experiencing NVP that is relevant to their health behavior concerns. A participatory framework approach involves developing

interventions to solve a health problem for individuals that are actively engaged as an innovative problem solver to transform the community.

The HBM contains core constructs that are generated from social and behavioral sciences that provide health practitioners an opportunity to evaluate and access specific health problems (Boslaugh, 2008; Glanz et al., 2015). The origination of the HBM dates back to Lewin's theory in 1947 (Burnes & Bargal, 2017). Lewin defined the behavioral change process that determined an individual's viewpoint, shaped the values of a specific outcome, and their perceptions that managed attitudes and behaviors (Boslaugh, 2008; Burnes & Bargal, 2017).

The HBM's six constructs include perceived susceptibility, perceived severity, perceived benefits and barriers to engaging in behavior, cues to actions and self-efficacy (Glanz et al, 2015) However, there are two constructs that guide the study's research questions and could indicate why pregnant women will take action are: Perceived benefits which refers to an individual's perceptions about their beliefs to reduce a potential threat or consequences and cure of a potential illness, and perceived barriers which identify the feelings and perceived obstacles that prohibit, impede action resulting from behaviors that create consequences. (Glanz et al, 2015). To contribute to the current body of knowledge on this topic, I applied a thematic analysis after interviewing a sample of women who have experienced NVP. The goal of this study was to understand the connection between women with a history of NVP, their perceptions of CAM, and their decision-making processes better. The results are expected to contribute to improved health education materials and serve improved strategies for the population under study.

Research Questions

RQ1: What are the experiences of coping with NVP and its symptoms among a sample of women between 19-30 years of age, who were pregnant for the first time?

RQ2: What are the perceived benefits and perceived barriers of using a CAM modality among women who have experienced NVP for a sample of women between 19-30 years of age?

RQ3: What factors influenced the decision-making process of deciding how to treat NVP symptoms, specifically when related to using a CAM modality, or not, among a sample of women between 19-30 years of age, who were pregnant for the first time?

Theoretical Framework

The central issue is the perceptions of pregnant women regarding CAM during NVP. In this study, the HBM provides the foundation for the conceptual framework for the process, explaining how working pregnant women experience decision-making and relate to the daily challenges associated with pregnancy (Boslaugh, 2019; Rogers, 2016). The HBM was developed in the United States in the 1950s by Hochbaum, Rosenstock, and Bandura (Glanz et al., 2015). Hochbaum, behavioral scientist, and psychologist Rosenstock were influenced by Lewin's theory of change management (Burnes & Bargal, 2017). Their collective goals were to gain a better understanding of why people did not seize the opportunity to partake in public health programs.

In 1970, the last construct of the HBM self-efficacy was introduced, highlighting the importance of an individual's confidence level as a part of the healing process. Self-efficacy emphasizes behavior as the primary purpose for which individuals can value outcome, expectation, and achieve the desired result (Glanz et al., 2015). Fundamental constructs of the HBM include perceived susceptibility, perceived severity, perceived benefits, and barriers engaging in a specific behavior, cues to action, and self-efficacy (Boslaugh, 2019; Glanz et al., 2015). The aim of using all six HBM is to identify health-related behaviors that could guide and align the framework for the intervention of NVP (Glanz et al. 2015). According to Glanz et al. (2015), the value of health-related behaviors is to avoid illness to maintain and stay well.

The HBM is an appropriate model as it provides a framework for understanding behavioral changes for expectant mothers who seek treatment for alleviating pregnancy-related symptoms of NVP (Boslaugh, 2019; Glanz et al., 2015; Rogers, 2016). The current study can provide critical information on the process and perceptions of pregnant women who are seeking to identify pathways for meeting their needs in addressing concerns related to NVP and their health (Argenbright, 2017). Understanding how their beliefs and perceptions informed this decision-making process is fundamental in the construction of the study (Glanz et al., 2015; Papathanasiou et al., 2013).

Nature of the Study

The study's participants were targeted in the United States of America using purposeful sampling methods, including a snowball/chaining strategy, specifically in the state of Michigan. Purposeful sampling is a strategy used to target a population who can

provide information related to the depth and breadth of qualitative inquiry and insights into the emerging phenomenon (Patton, 2015; Yin, 2018). According to Yin (2018), a multiple case study is appropriate for an in-depth qualitative methodological approach to probe and obtain perceptions of women experiencing NVP who are under review. Analytical distinctions for this design selection, if used to evaluate quantitative research of methodological techniques, could interpret the experience of NVP for pregnant women utilizing numbers (Marsvati, 2004; Patton 2015).

The phenomenological approach would define only the lived experience (Patton, 2015). Qualitative research would present the detailed, personalized, in-depth description of the participatory unit of analysis of pregnant women, their perceptions, and human experiences (Marsvati, 2004). The phenomenon identified in the focus of this inquiry is pregnant women experiencing NVP who are using CAM. A case study includes a triangulation of data collection to enhance the validity of findings. This process involves collecting data from multiple sources from the same population to confirm and elaborate on the outcomes (Yin, 2018). For the current study, in-depth interviews, survey questions, and potential archival data were used to triangulate data collection. More precise data collection methods are presented in Chapter 3.

Operational Definitions

Complementary and alternative medicine (CAM): A diverse group of therapies otherwise known as modalities and products that are defined by the National Center for Complementary and Integrative Health as health care approaches that are not part of traditional or mainstream medicine (Bowman et al., 2018).

Embryo: An early stage of development from a zygote, or a single cell resulting from the fertilization of the female cell by the male sperm. (Forbes, 2017).

Fetus: A fetus or foetus is the unborn offspring of an animal that develops from an Embryo.

Feto-protective: The developmental fate of most embryos is fixed before the onset of the symptoms of pregnancy sickness, and this process is also known as a feto-protective process against embryo toxins (Forbes, 2017*).*

Ginger, Zingiber officinale Roscoe Rhizome: Originated in the Asia subcontinent increasingly and consumed as a food or in food supplements. It is also recognized as a popular nonpharmacological product to treatment for NVP (Stanisiere et al., 2018).

Health belief model: A model developed to explain and predict health-related behaviors, particularly to reduce the risk of developing health problems (Glanz et al., 2015).

Herbal medicine: Gentle, safe treatments possessing unique properties not found in conventional medication (Shawahna & Taha, 2017).

Hyperemsis gravardum: A severe case of nausea and vomiting during pregnancy (Revell, 2017).

Helicobacter pylori (H. pylori): Helicobacter pylori (H. pylori) A bacteria that lives in the digestive tract of women with HG than in women without (Bustos et al., 2017).

Morning sickness: Mild pregnancy-related nausea and vomiting throughout the day or night (Heitman et al., 2017).

Nausea and vomiting pregnancy: A complex biopsychocial syndrome that is multifactorial, both in aetiology and manifestation, and has a major impact on various aspects of women's lives (Ozgoli et al., 2018).

Nausea and vomiting in early pregnancy: Nausea, retching or dry heaving, and vomiting in early pregnancy are very common and can be very distressing for women (Haas et al., 2015).

Pregnancy: The time during which one or more offspring develop inside of a woman (Johnson et al., 2016).

Assumptions

My first assumption is the paradigm assumption using philosophical worldviews proposed in the study (Creswell & Creswell, 2018). To develop an understanding of how pregnant women ages 19-30 cope with NVP to get to the root and the heart of the problem. The second philosophical assumption, what is the reality for the participants, their individual, and group interactions in their social worlds. Meanings determined behind their experiences and their perceptions. The third assumption was that all the participants answered the interview questions telling the truth to the best of their ability. Given the fact that the study is a case study design, to find out what the individuals know is essential to the study, along with their perceptions. The ongoing process of the study provided reassurance to participants explaining the confidential nature of the study will be protected now and into the future. The participants also received reassurance that they could withdraw at any time without any ramifications. The meaning could vary and possibly not portray the anecdotes of each participant.

Scope and Delimitations

The research scope included pregnant women who have given a live birth, are between the ages of 19 to 30, a reproductive age range, and agree to participate in the study (ACOG, 2020). According to ACOG (2020), the decline in fertility increases with age, and by the age of 45, fertility has declined to the point that having a natural pregnancy is uncommon for most. This intended audience was targeted for a variety of specific reasons.

On a global front, approximately 80-90% of women who are pregnant also experience NVP (Chartatos et al., 2015). Delimitations result from the specific choices of the researcher. All the participants met the following criteria (a) they were between the ages of 19 and 30 years; (b) were not pregnant at the time of the study, and are first time pregnant women (FTPW), who live in, one of the 52 states located in the United States of America, and are not physically pregnant at the time of the interviews; (c) were interested in diminishing ways to alleviate nausea and vomiting during pregnancy. There was no way to determine if participants were pregnant at the time of the recruiting process and interview, and there was no testing other than a self-report. According to Coghlan and Brydon-Miller (2014), when considering transferability, it is crucial to provide insights into the identity of applicants representing the entire population of women experiencing NVP. I began making connections from the revealed data to local and complete community-level behavior and practice (Coghlan & Brydon-Miller, 2014).

Limitations

According to Yin (2018), there are some limitations to utilizing case study methodology. Multiple-case study designs have distinct advantages, and there are disadvantages to a single case study design. The results and evidence from multiple cases are often more robust (Yin, 2018). The multiple-case study requires extensive depth and breadth of resources and an investment of time that should not be taken lightly throughout the research. When selecting multiple cases, researchers will raise a new set of questions that target how and what that is to follow a sampling design (Yin, 2018). Possible weaknesses in the study could include identify an inadequate number of participant's enrolled to obtain saturation.

When increasing transferability, I looked carefully at participants associated with the context of the study and the contextual boundaries of the findings (Given, 2008). According to Givens (2008), there are critical reasons for selecting participants that represent the research design. Using thick sample descriptions can provide readers with ample information for transferability. It gives the reader a full, purposeful account of the context, participants, and research design so that the reader can determine transferability (Coghlan & Brydon-Miller, 2014; Givens, 2008).

According to Givens (2008), providing a detailed and accurate description of the setting, interviewees, and the perceptions about NVP will assist the reader in concluding how best to design transferability in a study. Using dependability addresses a qualitative methodology and supports changes in a design that could include increasing the number of people interviewed, document analysis, and an audit trail (Givens, 2008). According to

Givens, preventing a study from being so unique and specific could limit the research deemed not replicable, which limits the impact on the design. Increasing transferability, dependability, and considering the bias portion of the study could require constant changes (Lavrakas, 2008; Salkind, 2010).

According to Lavrakas (2008), to alleviate change and maintain order an audit trail was established to keep the research on track to determine what appears different from the design in the proposal. In my qualitative study, the entire parameters could not always be anticipated in advance. As a result, documents were established to include the informed consent log, audio log recordings, consent recording log, and qualifying criteria list to ensure an audit trail provided the inclusion criteria' accuracy to review the progress of participants' validity and accuracy (Given, 2008). The audit trail provided a mechanism for retrospective assessment and a means to address concerns related to the rigor of the research and the trustworthiness of the results. As a result, this could impact a plethora of changes, such as increasing the number of interviews, and interviewees required. Maintaining an audit trail is known for tracking the process (Lavrakas, 2008). The source of the measurements could be challenging to detect (Lavrakas, 2008; Salkind, 2008). As a result, the bias could be an interviewer, responder, data collection, or potentially combine the above. According to Lavrakas, when addressing potential measurement bias from an interview, the researcher can integrate additional survey data into the initial training of interviewers to diminish habits and flaws, and measurement bias from being inserted into the survey by interviewers.

Saturation is a crucial concept to researchers for the goal is to create theoretical

knowledge that is applicable beyond the empirical materials. According to Mills et al. (2010), the concept of saturation enables researchers to express confidence that the research was well thought out and ready for dissemination. Without experiencing theoretical saturation, researchers' deliverables could potentially describe weak data that is likely rejected by peer-reviewed journals (Mills et al., 2010). Audiences would not have confidence in the findings of research that did not have some indication of the rigor of data collection and analyses. Often, researchers discuss preliminary findings of their project to obtain feedback on their results.

After interviewing the 12th participant, no new or relevant information emerged relating to data saturation and the newly constructed theory. At which time no more data needed to be collected. According to Givens (2008), data saturation can be achieved quicker if the sample size is cohesive such as a homogenous group of a particular demographic group. To ensure data saturation, it was essential at the early stages of analysis to consider each piece of data equally to locate, understand, and explain variations within the sample. I collected sufficient data, valuable feedback, and assess theoretical saturation.

Significance

The current study has important social and public health education significance. The cultural and clinical perception that NVP is a common occurrence may skew how women feel. They must cope with this challenge (Bowman et al., 2018; Johnson et al., 2016; Koc et al., 2017; Shawahna & Taha, 2017). The current study provides an opportunity for participants who wish to engage and share their experiences with NVP,

their symptoms, their perceptions of CAM, and their decision-making process. According to Brown (2016), the etiology of NVP is still unknown. However, there are a variety of theories addressing psychological pre-disposition, and hormonal stimulus found during pregnancy. Beyond empowering current participants, the study lays the framework for understanding how individuals decide to use, or not use CAM modalities and how they ensure any treatments they choose are safe. Public health educators may gain valuable information in designing tailored, community-based, or culturally sensitive intervention programs, promoting positive social change values and establishing an appropriate dialogue about CAM therapies (Massey, 2015; Xinyin, 2015).

According to Glanz et al. (2015), a tailored intervention that utilizes the HBM constructs is useful in changing health behaviors. Using the HBM suggests that individuals learn about a health issue, learn to care about it, and eventually act upon the idea that creates unstoppable positive social change (Doig & Muller, 2011). As a result, knowing their values can ignite the interest of passion, and to inspire participants to look at the big picture (Doig & Muller, 2011). Designing a study with these fundamental key constructs could assist a pregnant woman experiencing NVP. Participants must understand their values. Igniting the interest is where their high-level action steps come from to achieve unstoppable positive social change (Doig & Muller, 2011).

Summary

In Chapter 1, the problem of NVP, the potential challenges and benefits of CAM as a tool were outlined, as well as clear explanation of the research questions, nature of the study, the conceptual framework, assumptions, delimitations, scope of the study, and

limitations. The significance was established. These sections provided the overview of the remainder of the study which will be further explained in the next several chapters. In Chapter 2, there will be a presentation of synthesized literature which explores current research across the variety of topics surrounding women who have experienced NVP, the topics related to the many aspects of CAM, the conceptual framework, and will highlight gaps in the literature. Chapter 2 will highlight how the current study will build on and extend the current body of literature and make a significant contribution to the topic of NVP and CAM for women.

Chapter 2: Literature Review

Introduction

A comprehensive review of the literature is essential to establish an understanding of a research topic. My objective was to review literature on perceptions of first-time pregnant women, NVP, and those who may choose to use CAM. I also identified what this population might know about effectively and safely managing NVP.

In this multiple-case qualitative research, I aimed to improve the understanding of perceptions, attitudes, and behavioral experiences related to women who have experienced NVP ages 19-30. I also wanted to gain insight into women's beliefs and the potential use of CAM modalities to treat NVP symptoms. Finally, I wanted to learn how the decision-making process occurred for them to decide, too, or not to pursue CAM.

This undertaking was significant, as a large percentage of the approximately 80-90% of women who are pregnant globally, also experience NVP (Chartatos et al., 2015; Haas, 2018; Heitman et al., 2016; Heuvel et al., 2016; McKerracher et al., 2015; Tiran, 2014). NVP is a condition commonly known as morning sickness and ranges in a spectrum from mild or moderate in pathology to the more self-debilitating and limiting disease called Hyperemesis Gravardium (HG; Butos et al., 2017; Colodro-Conde et al., 2017; Forbes, 2016; Ozgoli & Naz, 2018). The literature review addressed the relationship of CAM, NVP, nutrition, extreme cases of HCG, and reported perceived risk factors of pregnant women (Butos et al., 2017; Coloro-Conde, 2017; Revell, 2017).

The purpose of the literature review is to present a synthesized assessment of what research was currently in the literature related to pregnant women, NVP, and CAM

modalities. For this reason, the identification of empirical literature is critical due to the etiology and consequences of NVP are not always known for first-time mothers (Butos et al.,2017; Colodro-Conde, 2017; Forbes, 2017). It could include hormonal or nutritional health-related risks often identified amongst those diagnosed with pregnancy sickness (Butos et al., 2017; Colodro-Conde, 2017; Hass, 2016; Forbes, 2016).

A secondary purpose was to review the historical development by which pregnant women might make health decisions, reduce, or prevent health risks, or engage in provisional self-care (Balouchi, 2018; Glanz et al., 2015; Ozgoli, Naz, 2018; Revell, 2017; Sullivan & McGuiness, 2005; Warriner et al., 2014; Koc et al., 2017). The consequences of NVP are explored in the literature alone (Bustos et al., 2017; Revell, 2017; Sullivan & McGuiness, 2015; Tiran, 2014). This literature review established findings for how NVP influences the quality of life for the embryo and potentially impacts the perceptions of pregnant women. Lastly, Chapter 2 includes and examination the four categorical domains of CAM best practices, current applications of CAM to address NVP, and specific literature related to identified attitudes, behaviors, and any documented correlations between first time pregnant women exploring alternative pathways for safety (Argenbright, 2017; Bustos et al., 2016; Forbes, 2016; Koc et al., 2017; McKerracher et al., 2014; Ogawa, 2016).

Literature Search Strategy

When locating pertinent literature, the Walden University Library, and Google Scholar databases were utilized. Databases searched included ProQuest Health & Medical ProQuest Nursing & Allied Health, PsycINFO, PubMED, SocINDEX, Embase

MEDLINE, CINAHL Plus and Science Direct. Selected literature was limited to publications and dissertations from 2014 to 2020, to find the recent studies available with exceptions for select seminal articles.

The phrases and keyword used during the search for case studies and the application of the HBM included: *childbirth, nausea and vomiting, pregnant, pregnancy, pregnant women, first-time mothers, complementary or alternative, complementary alternative medicine, nausea or vomiting and during pregnancy, or emesis or hyperemesis gravidarum, or morning sickness, nausea vomiting during pregnancy, over the counter OTC, herbs, vitamins, midwives, trained midwives, philosophical conformity, utilization, rural,* and *evidenced-based midwifery.* To organize the articles, a literature review matrix was used to maintain and identify appropriate articles for inclusion.

Theoretical Foundation

In this study, the HBM provided the foundation for the theoretical framework for the process of explaining how pregnant women experience making decisions to reduce the risk of NVP and relating to challenges during pregnancy (Boslaugh, 2019; Rogers, 2016). The HBM was developed in the United States in the 1950s by Godfrey et al., whose work was influenced by the Social Cognitive Theory (SCT; Glanz et al., 2015). The key constructs of the HBM include perceived *susceptibility*, perceived *severity*, perceived *benefits,* and *barriers* engaging in a specific behavior, *cues to action* and *self-efficacy* (Boslaugh, 2019; Glanz et al., 2015).

The overall HBM contains six constructs (Glanz et al., 2015). The first four original HBM were developed by Hochbaum et al. The last two HBM were added later

as their research on the constructs expanded (Glanz et al., 2015). The cumulative effort of the HBM is to predict whether people will take steps to prevent, detect, or control any form of illness conditions.

1. Perceived susceptibility: Relates to an individual's overall belief and perceptions about acquiring a health condition. This construct takes into account the feelings of vulnerability associated with a wide range of views in diagnosis and susceptibility and their opinions of a disease, condition, NVP, illness in general. (Glanz, 2015).
2. Perceived severity: Relates to the individual's feelings and beliefs about contracting the disease, of reducing a threat of a disease, the ability to work when experiencing NVP, the impact on maintaining family relationships in the home, disability, or left with feelings of being stigmatized. Combining the key constructs perceived susceptibility and perceived severity termed as a perceived threat (Glanz, 2015).
3. Perceived benefits: Relates to individual perceptions to reduce their beliefs or cure the illness. These constructs weigh through the action steps on the perceived susceptibility and severity. There are tangible results obtained if positive actions followed, and benefits arise from taking the necessary steps when a health action is perceived (Glanz, 2015).
4. Perceived barriers: Relates to the individual's possible obstacles that impose negative consequences resulting from taking-action steps (Glanz, 2015). These potential negative aspects could hinder an individual from

taking a health action that may result in cost or screening procedures for NVP, harmful side effects, painful outcomes, challenging, tedious, and burdensome (Glanz, 2015).

5. Cues to action: Relates to signals that promptly trigger behaviors of change, without proceeding through belief. The feelings promote external or external cues that tend to operate and target a specific feeling that increases a perceived threat (Glanz, 2015). According to Glanz (2015), there is a deficit in clearly understanding the HBM. Cues to action appeal to a physician's guide, physical change in health such as NVP, coughing, drug store display, and an appropriate reminder.
6. Self-efficacy: Relates to beliefs that directly impact the level of confidence as to whether or not the individual can competently perform a behavior. The last construct of the HBM, self-efficacy, was introduced in 1970, highlighting the importance of an individual's confidence to achieve a specific and desired behavior results in using CAM modalities (Boslaugh, 2019; Glanz et al., 2015).

The HBM incorporates a variety of components that can forecast why people take- action, avoid, or manage their health (Glanz et al., 2015). When people adapt to the perceived benefits, these changes are viewed as positive results. An individual’s beliefs will flow from the primary components (or constructs), including the likelihood of reducing the risk of NVP. In general, higher perceived benefits make an individual more likely to take-action (Boslaugh, 2019). The HBM is instrumental in developing

interventions that can predict and change health-related behaviors (Glanz et al., 2015). According to Krueter and Farrell (2000), the HBM is capable of elaborating on the tailored interventions that could modify the beliefs of women experiencing NVP and using CAM to mitigate the risk.

The HBM is identified as second in effectiveness to the Transtheoretical Model when tailoring an intervention (Boslaugh, 2019; Glanz et al., 2015). The HBM could be essential to understanding behavioral changes of expectant mothers who use treatments to alleviate pregnancy-related symptoms of NVP (Boslaugh, 2019; Glanz et al., 2015; Rogers, 2016). Of all the constructs, perceived benefits are second to none, one of the most important of the key constructs to impact a higher level for prevention and risk reductions. Perceived susceptibility uses the same pattern as benefits, stepping into the path of a robust preventive indicator of health behaviors (Janz & Becker, 1984).

The HBM perceives that individuals will seek to take a suggested action when it could reduce the perceived severity of harm along with the health behavior leading to alleviate the perceived benefit of barriers to take-action about their health. The cues to action might alleviate a construct that is not based on expectancy or value and could be as diverse as experiencing medical symptoms, a primary care physician recommendation, emailed reminders from a health plan or a robust media campaign. The self-efficacy component was not initially part of the original design of the HBM (Glanz et al., 2015). However, self-efficacy construct has increasingly shown that it is a strong predictor of a variety of health behaviors along with evaluating the co-morbidity and a variety of other health factors (Glanz et al., 2015; Heitmann et al., 2015). The six constructs complement

the HBM suggests health-related steps depend on three different elements to work simultaneously. First, health values, the motivation to ensure that health issues are relevant. Next, values lead to a health threat's vulnerability, the belief of an individual's susceptibility, the vulnerable state of leading to a severe health risk, condition, or (perceived threat). Last, feelings and attitudes of a health problem, at an unverifiable amount (perceived barrier) could potentially minimize the perceived risk (Boslaugh, 2019). IOthe HBM to further explore the perceptions of a sample of women who have experienced NVP to better understand their decision-making process for identifying pathways and meeting their needs related to NVP and their health (Argenbright, 2017; Glanz et al., 2015).

The theoretical model elaborates on how all six constructs connect to the HBM, the research questions, and the perceptions of women who are experiencing NVP and using CAM. A variety of modifying factors can influence the disease state, such as age, sex, ethnic origin, socioeconomic, temperament, insurance status, and education. The perceived threat of disease can also impact the risk factors that compliments the HBM (Glanz et al., 2015). The HBM frames the study and works collaboratively with the research study, approach, and research questions to shape the study, simultaneously obtaining the perceptions of pregnant women ages 19-30 years of age (Glanz et al., 2015). The information identified is specific to each individual participating in the study. The HBM will lay the foundation of the individual perceptions of women who are burdened by perceived susceptibility of NVP, the likelihood of changes will result in their

behaviors. The results found in the study could provide additional detailed information as it relates to the study design.

Defining Complementary Alternative Medicine (CAM)

CAM is defined as a broad set of healthcare services and practices that are not necessarily integrated as a part of the country's tradition of the dominant healthcare paradigm and establishment (WHO, 2016; NCCAM, 2016). NCCAM classified CAM methods under the following categories: mind-body medicines, biologically based practices, manipulative and body-based practices, energy therapies, and whole medical systems include homeopathic medicine and naturopathic medicine. CAM incorporates a variety of practices with the intention of preventing or treating disease by way of promoting health, wellness, and teaching individual's self-care practices that can enhance a pregnant woman's quality of life (Argenbright, 2015; Balouchi et al., 2018; Healey, 2017; Mitchell, 2016; Sullivan & McGuiness, 2015; Revell, 2017). According to the parameters and gap found between conventional medicine and whole medicine systems, they are derived from the complete systems of theory and practice (Healey, 2017). These systems have evolved from years of ancient healing practices from earlier approaches that are now being used in conventional medicine (Healy, 2017). There are a variety of CAM systems that began in non-Western cultures such as traditional Chinese medicine (TCM), and Ayurvedic medicine, and homeopathy therapies (Healy, 2017). For most of the CAM systems, the goal is to integrate the body, mind, and spirit to alleviate and treat to the whole person not the disease (Healey, 2017).

CAM originated from a Greek word meaning all, whole, entire, or total which is drawn upon to ground the research (Erickson, 2007; McEvoy & Duffy, 2008; Papathanasious et al., 2013). As a result, a human being is thought of as the primary focus, as-a-whole entity and not a health-disease concern (Ericson, 2007). Parse's theory addresses human becoming, that a human is considered a being of his own will, and voluntarily acts of his own accord as it relates to the whole person participating in the cosmic process choosing the way to process health (Parse, 1981). Parse's theory was developed due to his radical view of health, explaining that the status on health was a way of survival inside the world and that health was more of a way of life (Papathanasious et al., 2013; Parse, 1981). Understanding the theoretical foundation of nursing adopted a holistic approach dating back to the Florence Nightingale era, at which time supported and encouraged the multidimensional model and importance of the environment to include touch, light, scents, music, and silent reflection during the therapeutic process (Papathanasious et al., 2013). This theory was new and ushered in a distinct way of viewing health which provided a deeper understanding of how a person perceives their health, healing, and establishes alternative pathways and options for individuals to create their destiny (Papathanasious et al., 2013).

There are four current CAM domains acknowledged in the literature including mind-body medicine, biologically based practices, body-based practices, and energy medicine.

- Mind-body medicine calls for a plethora of methods that are utilized to bridge the mind’s ability to impact the bodily functions and symptoms.

This explains the parasympathetic and sympathetic states of relaxation that incorporate sound, art, music, dance and breathing (Healey, 2017)

- Biologically-based practices in CAM utilizes matter that is found nature, such as herbs, foods, and over the counter supplements. According to what is defined as dietary supplements and herbal remedies and medicines (Healey, 2017)
- Manipulative and body-based practices in CAM are utilized according to hands-on therapies, integrated postures provide discipline to the body. Some of the more structured modalities are yoga, tai chi that work collaboratively in restoring an individual's health. As a result, application can further be applied to various joints to assist individuals to move beyond the typical range of motion to provide health and balance. A variety of other therapies can be integrated with ease are such as: naturopathic medicine, chiropractic medicine, osteopathic medicine, and massage to enhance a state of wellbeing (Healey, 2017).
- Energy medicine therapies utilize the energy fields as there are two types: Biofield therapies and bioelectromagnetic-based therapies. To include Qi-Gong, a traditional Chinese therapy that harnesses movement, meditation, and controlled breaths that focuses on the improvement of blood flow and the qi in the body (Healey, 2017). Reiki, therein a practitioner is attuned to a universal flow by placing hands on or near the person to ignite the universal flow of energy. Therapeutic touch is a type of therapy where

practitioners use the energy field from an individual's body setting the intentions to identify and bring balance to encourage healthier lifestyles (Healey, 2017; Hwang, 2016; NCCAM, 2016).

Perceptions of Pregnant Women

One distinctive population interested who could be interested in the potential benefits of CAM systems would be pregnant women. Specifically, women who are seeking natural ways to relieve some of the symptoms that come with pregnancy (Frawley et al., 2015). However, pregnant women have specific and unique needs for their own health and the health of their growing fetus which may be severely complicated by using self-prescribed CAM methods (Frawley et al., 2015; Ozgoli & Naz 2018; Revell, 2017; Sullivan & McGuiness, 2015). Women are concerned about their safety, lack of regulatory guidelines using OTC drugs, and have reported an inadequate amount of confidence with their primary healthcare physician's current level of knowledge about CAM and the life of their unborn child (Holden et al., 2015; Warriner et al., 2014; WHO, 2016). According to Frawley et al. (2015), pregnant women showed differences of opinions as well as similarities associated with the use of CAM according to the countries and regions for which they lived and where their study was conducted (Holden et al., 2015; Hwang et al., 2016; Mitchell & McClean, 2014; Sullivan & McGuiness, 2015; Warriner et al., 2014). The current synthesized literature suggested there is a strong interest in CAM modalities, but still little understanding of exactly how women who experience NVP decide to treat their symptoms. Women are ingesting herbal medicine during pregnancy, and self-prescribing herbal medicine during pregnancy is unsafe for

the mother and the unborn child (Frawley et al., 2015). Primary care physician understands the harmful risks associated with the use of self-subscribing herbal medicine during pregnancy (Frawley et al., 2015).

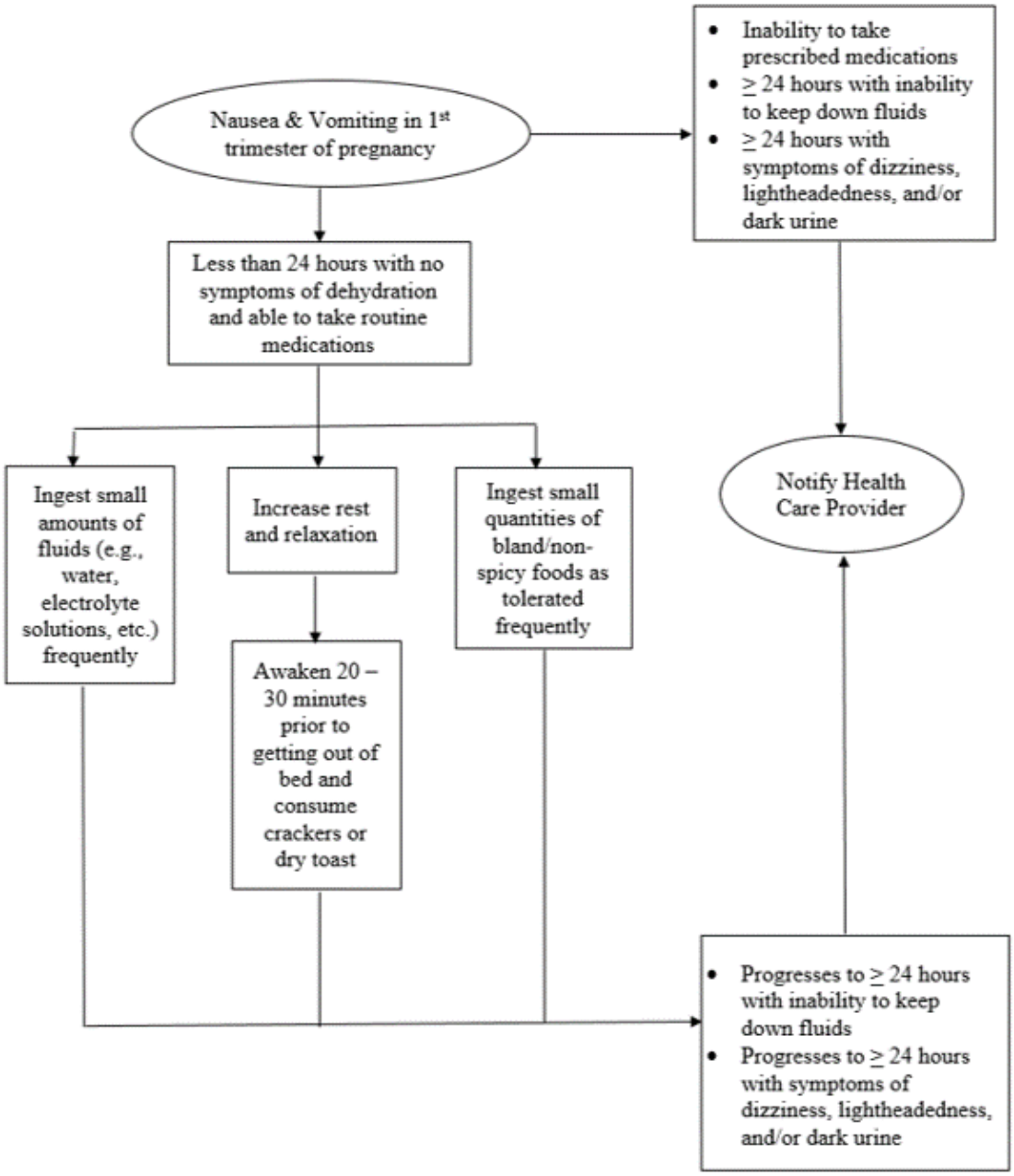
Nausea and Vomiting During Pregnancy (NVP)

According to Chortatos et al. (2015), it is estimated that NVP conditions have commonly occurred among pregnant women during gestation for more than 4,000 years. NVP have culturally and clinically been viewed as common and uncomfortable symptoms, but they can also be a safety concern for a mother caring for herself and fetus (Almond et al., 2016; Pallivalappila et al., 2015; Revell, 2017). Research documents that managing the stress and safety of NVP is a regular occurrence which happens to approximately 90% of all pregnant women lasting upwards of 20 weeks (Argenbright, 2017; Bustos et al., 2016; Mahbobeh et al., 2015; Chartatos et al., 2015; Revell, 2017).

More often, women are reporting that even extreme conditions of NVP (Figure 1), which include dehydration, dizziness, and dry retching are being viewed as normal symptoms of pregnancy rather than, indicating that remains a need for appropriate education and formalized institutional childbirth education materials to help address this common yet uncomfortable symptom, as well as its potential complications (Frawley et al., 2015; Holden et al., 2015; Mitchell & McClean, 2014; Sullivan & McGuiness, 2015; Tiran, 2014; Warriner et al., 2014).

Figure 1

Extreme Conditions of NVP



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While the etiology of NVP remains unproven, there has been speculation. Some researchers have argued that it is a psychologic predisposition (a conversion or somatization disorder) and the ineffectiveness of the women to transition to what might be thought of unreasonable life stresses, and changes in their lifestyle and bodies (Boelig, 2016; McParlin, 2016; O'Donnell, 2016). Other researchers have reported it appears to be the ability of the pregnant body to avoid toxins, which can be solved by incorporating a new diet during pregnancy, some that an enhanced estrogen results in stress and/or disease status for pregnant women (Boelig, 2016; Haas et al., 2015; McParlin, 2016).

Whatever the cause, approximately 80-90% of women experience NVP (Almond et al., 2016; Argenbright, 2017; Bustos, 2017; Havnen et al., 2019; Heitman et al., 2016; Trovik & Vikanes, 2016). NVP is considered one of the most common complaints found amongst pregnant women and is encountered by approximately 50% of the pregnant women's population (Argenbright, 2017; Bustos et al., 2017). According to Heitman et al. (2015), 75.7% of the women experienced a change in their quality of life (QOL) due to severe cases of NVP and many women have exercised their personal preference not to become pregnant again. If NVP is left untreated it can develop into advance stages ranging from mild NVP to severe hyperemesis gravidarum, hospitalization and even morbidity (Argenbright, 2017; Brown, 2016; Heitman et al., 2016). For some women NVP will evolve into a severe case called hyperemesis gravidarum (HG) which when left without medical attention or hospitalization can lead to morbidity for the mother and unfavorable birth outcomes (Havnen, 2019; Trovik & Vikanes, 2016). While researchers

argue over the etiology or pathogenenesis of NVP, it appears most likely to be a byproduct of placental hormones with human chorionic gonadotropic.

It was found that NVP was a means of fetoprotectiveness to minimize toxins, mutoagents, or pathogens (Forbes, 2017; Ogawa et al., 2017). As a result, the fate of the embryos is specified by their aversions to foods that arise from genetic or epigenetic disorders that could lead to a spontaneous abortion (Chartatos et al., 2015; Colodro et al., 2017; Forbes, 2017; Ogawa et al., 2017; Ozgoli et al., 2018). The consensus indicates that genetic, endocrine, and infectious factors remained, and the primary focus is to find scientific ways to improve symptoms to minimize the risks of mother and child. The treatment ranges from dietary changes, pharmacologic treatment, hospitalization being fed intravenous fluid and nutrition therapy. There are possible links indicating NVP grows stronger with maternal age, thereby, is more pronounced in mothers who are 35 or older (Ellila et al., 2018; Forbes, 2017; Pallivalappila et al., 2015).

NVP, HG, and Nutrition

Nutrition during early stages of pregnancy plays an important role in critical fetal development for healthy organ development and long-term health of the offspring (Forbes, 2016; Ogawa, 2017; Haas et al., 2015). NVP and HG results in malnutrition and these unbalanced nutritious states leave pregnant women with aberrations of angiogenesis or occurrence of the inflammatory process influencing dysfunctional fetal growth (Dowsell, 2015). In Japan, all women with NVP diets are assessed in the early stages of their pregnancy (Ogawa et al., 2016). As a result, embryo quality is protected by calibrating the dietary intake of nutrient, iodine, critical to their neuromotor development.

An iodine deficiency is still the most critical for cognitive impairment worldwide (Forbes, 2016).

Food aversions are most associated with pregnancy sickness, NVP, HG, the following specific foods that are low in iodine, dairy, fish, meat and seafoods (Forbes, 2016). According to the authors, they agreed that there is an interesting link between brain development, as pregnancy sickness reduces the dietary intake of iodine that fall under categories of iodine deficiency and hypothyroidism (Forbes, 2016; MacGibbon et al., 2015). While on the other hand, Bustos et al. (2016) pointed out therapy or pathway utilized can make major strides to improve the symptoms and risk of the mother and fetus. The induced sickness protects the embryos from excessive dietary iodine that reduces the intake of iodine rich food (Bustos et al., 2016; Forbes 2016).

Another health factor was identified in the stomach of pregnant women with helocobacter pylori (H. pylori ; Alexander et al., 2014; Shaban et al., 2014). As a result of the terms of the role of H. pylori on the side of pathogenesis of HG, H. pylori may exacerbate hormone-induced changes found in the nerve and electric functioning of the stomach, increasing the risk for women who are infected who find themselves in a severe situation of the spectrum of nausea and vomiting including gastritis (Argenbright, 2017; Bustos et al., 2016; Forbes, 2017; Ogawa, et al., 2017; Ozgoli et al., 2018; Revell, 2017). As a result, pregnant women who are inclined to NVP, HG especially, and who obtain prolonged conditions that extend to the second trimester should be screened for H. pylori (Forbes, 2017).

Gastritis is considered a specific condition whereby the lining of a woman's stomach or mucosa is deemed inflamed. During the inflamed stages, the stomach begins to produce acid and enzymes to help break down food that begins to create and protect erosion of gastritis (Edens, 2019). The inflammation comes from drinking alcohol and eating heavy foods which begins to cause a thick lining of the stomach to erode. An infection of H. pylori is a risk factor for gastritis from an infected person's saliva, vomit, or feces and excessive use of alcohol, gastrointestinal, and immune conditions increase the risk and causes of gastritis (Edens, 2019; Suda, 2019).

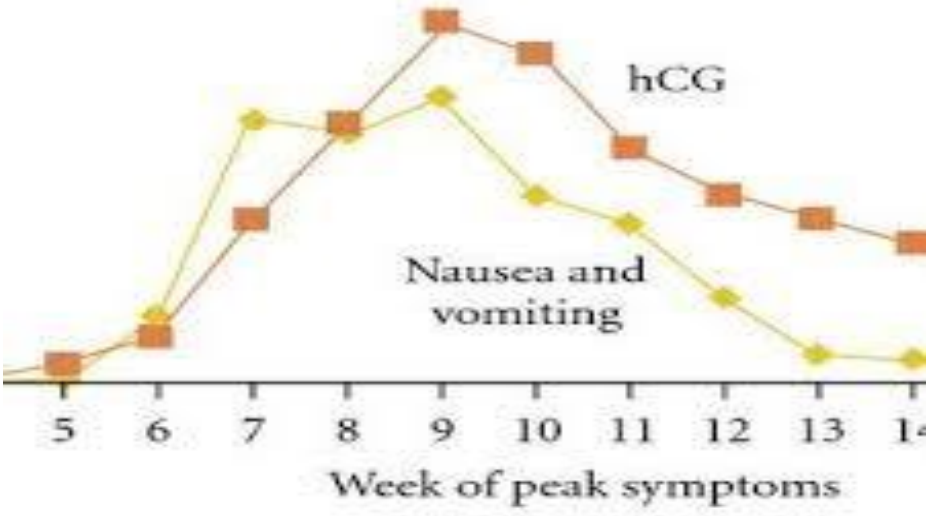
Hyperemesis Gravidarum

Finally, in its most severe form, NVP can develop into HG. Gynecologists recommend that recognizing the signs early is a reason for recognition and treatment of nausea and vomiting or pregnancy to alleviate advancement to HG (Yeh et al., 2018). The rates for pregnant women are estimated upwards as high as 85% for those experiencing HG (Boelig, 2016; O'Donnell, 2016). While morning sickness oversimplifies the symptoms, they may also be decreased by obstetricians, physician care, or an obstetric provider and pregnant women, as a result understating the necessity of undertreatment (Forbes, 2017; Yeh,et al., 2018). As a result, advance treatment, is recommended to prevent the progression of NVP to HG which can be characterized by unrelenting vomiting, more than 5% weight loss, electrolyte irregularity (hypokalemia) dehydration (high urine specific gravity) resulting in economic burdens, healthcare costs, and time lost from work (Boeling, et al., 2016, Forbes, 2017; Haas, et al., 2015).

In Figure 2, human chorionic gonadotropin (hCG) levels indicate that NVP is a function of 8 to f14 weeks of pregnancy. It is recorded that hCG level peaks more often during the first trimester. Interventions for treating hyperemesis gravidarum (Boelig et al., 2016) HG is diagnosed as a clinical disease absent from such as gastrointestinal conditions (e.g., appendicitis, hepatitis, pancreatitis, or biliary tract disease) pyelonephritis, and metabolic disorders, such as diabetic ketoacidosis, porphyria, or Crohn's disease, that which ultimately could explain the finding (O'Donnell et al., 2016). In HG fever, abdominal pain, and or migraines is atypical, which would cause a physician to look for other possible causes (Forbes, 2017; O'Donnell et al., 2016).

Figure 2

Human Chorionic Gonadotropin Levels



Adapted from "Clinical Practice. Nausea and Vomiting in Pregnancy," by J. R. Niebyl, 2010, The New England Journal of Medicine, 363, *p. 1544. Copyright 2010 by Massachusetts Medical Society.*

Another theory for etiology of HG calls for endothelial cell dysfunction or aberration of angiogenesis indicating that HG results in a so-called imbalanced nutrition of pregnant women culminating in aberration of angiogenesis or natural event of inflammatory process (Boelig, 2016; Yeh et al., 2018). As a result, the pregnant women's body calls for more nutrition as they are unaware leaving them with acute starvation, stress, and excessive weight loss (Ellila et al., 2018; Yeh et al., 2018). There is a low comparison between nausea and vomiting while pregnant and HG, leaving 0.3–1% while some of these women might be diagnosed with early HG however it might help to enroll NVP women in a HG program (Bustos et al., 2016; Forbes, 2016; O'Donnel et al., 2016).

Historical Treatment of Nausea and Vomiting

In the 1950s ,a medical drug named Thalidomide was prescribed as a common treatment for pregnant women who experienced morning sickness NVP (Vargesson, 2015). The symptoms of NVP often include heartburn, dehydration, electrolyte and acid-base imbalance, nutritional deficiency, ketonuria and loss of approximately 5% bodyweight that could lead to HG symptoms (Brown, 2016; Haas, 2018, Heitman et al., 2016; Vargesson, 2015). The drug was considered a nonaddictive, nonbarbiturate sedative which was created by a German pharmaceutical company, Chemie-Grunenthal (Vargesso, 2015). Due to the severity of NVP and the impact it has on pregnant women, Thalidomide was provided as a medical OTC drug to aid in the discomfort during the first trimester of pregnancy up to the most sensitive time of a specific time frame of 20 to 36 weeks of fertilization (after 30-50 days of the last menstrual cycle passed (Smithells &

Newman, 1992). As time progressed, Thalidomide appeared to provide an efficient antiemetic that was utilized consistently to manage and treat the presence of morning sickness for upwards of 16-20 weeks from the onset of the early stages of pregnancy to alleviate nausea symptoms. It appeared to be a success. However, the world was not prepared for what would become the largest man-made medical disaster in the history of morning sickness and pregnancy (McBride, 1961; Lens, 1962; Vargesson, 2015). As a result of a failure to understand long-term effects, reports later revealed neuropathy after patients who had been taking the drug were producing children with birth defects, and experiencing high rates of miscarriages (Sewell, 2015; Vargesson, 2015).

Legacy of Drug Safety

Although today the mere mention of Thalidomide instils fear in professionals, pregnant women, and those previously inflicted by thalidomide (PR Newswire, 2018; Sewell, 2015; Vargeeson, 2017), 5 decades has passed. Many changes have occurred in the way drugs are now tested, along with mechanism of actions, revealing that using mice as a test subject were far too sensitive to pick up concerns leading to potential human outcomes (PR Newswire, 2018; Sewell, 2015). Kelsey provided the foundation for modern day drug testing in the United States and laid the path for stringent guidelines in addressing the possible safety consequences that thalidomide victims in Belgium, Italy, Spain and the United Kingdom experienced (Vargeeson, 2015). A document sent on January 31, 2018, to United States Senators McConnell, Schumer, House leaders Ryan and Pelosi spurred lawmakers to learn from the mistakes in other countries by not diminishing the Risk Evaluation and Mitigation Strategies (REMS) program (Kelsey,

1988; Sewell, 2015; Vargesson, 2017). Acknowledging that REMS is a drug safety program that is a permanently established part of the U.S. Food and Drug Administration FDA which aids that individuals can require certain medications with serious safety concerns to help ensure the benefits of the medication outweigh its risks. While years of negativity becomes a part of the history a legacy is being paved formulating the REMS program that will impact many people.

Application of CAM to Address NVP

While safety needs to be at the forefront of treatment discussions, symptomatic relief remains a real and necessary discussion. CAM may be one potential pathway for pregnant women who have experienced NVP as a means to alleviate pregnancy related symptoms (Argenbright, 2017; Heitman et al., 2015). In one study of a nationally representative cohort sample, Frawley et al. (2016) determined that pregnant women were open and receptive to incorporating alternative pathways during pregnancy that could alleviate the feelings of stress, anxiety and helplessness associated with NVP, but participants were apprehensive. Overall, in exploring reports, women's perceptions of CAM appeared to be that they consider it safe due to their natural and holistic origins, but also remain reserved concerning its legitimacy (Hal et al., 2015; Steel et al., 2014). Of most importance is the ability for pregnant women to make informed and healthy decisions for themselves and their unborn children. Research presents a strong argument for healthcare personnel to have knowledge of CAM modalities without prejudice, to have knowledge of the perceptions of the population, to help educate and inform women of their rights, benefits, and any potential health risks of alternative healthcare usage

(Davis & Yeh, 2014; Frawley et al., 2015; Heiman et al., 2015; Holden et al., 2015; Pagnanai, & Shumba, 2016; Warriner et al., 2014).

There is a lack of information available on regulation and the topic of CAM as it relates to pregnant women suffering from NVP (Heitman et al., 2015; Hwang et al., 2016; Frawley et al., 2015). What little information individuals can find are often unconfirmed sources from the internet (Bayisa et al., 2015; Hwang et al., 2016; Pallivalappila et al., 2015). Individuals such as family and close friends may recommend ideas they see related to CAM and the symptoms of pregnancy; however, it is important pregnant women have access to quality information that can assist them in making informed decisions (Bayisa et al., 2014; Frawley et al., 2014; Holden, et al., 2015; Hwang et al., 2016; Kennedy et al., 2016; Mothupi, 2014; Pallivalappila et al., 2014; Pallivalappila et al., 2015; Strouss et al., 2014). Research supports this need for mother-to-be to learn about CAM from trusted and safe sources (Birdee, et al., 2014; Frawley et al., 2015; Hall & Jolly, 2014; Pallivalappila et al., 2014). However, it is critical that information and treatments also be regulated and have oversight. According to Hwang et al. (2016), the safety and efficacy of understanding CAM are essential when educating and providing adequate exposure to pregnant women's health.

With the use of CAM modalities steadily increasing we may be able to improve education efforts by first understanding what the current populations perceives related to the use of CAM to treat NVP and how it applied decision making processes. Health educators can then use these insights to apply them to future ethical considerations and

enhanced scientific examination concerning their use in possible treatment options (Hwang et al., 2016).

Current Demographics on NVP and CAM

In looking at the limited current research published on populations of pregnant women who have experience using CAM, there is a unique profile of a first time working pregnant women attempting to alleviate stress associated to NVP, giving birth to their first child later in life, being married living in dual income household, working in a professional setting earning upwards of $50,000 or more, having earned higher levels of education and being older (Bayisa, et al., 2014; Birdee et al., Frawley et al., 2015; Hall, 2014; Pallivalappila, et al., 2015; Heitmann, et al., 2015). In one report, published perceptions of the pregnant women are that CAM methods were safe, strengthened their immune system, improved control over their bodies, and were more natural than using clinical methods (Frawley, et al., 2016). Pregnant women who consciously seek to advance their QOL using CAM may be able to alleviate long lasting economic burdens, health related risk associated with NVP, and alleviate adverse fetal outcomes (Argenbright, 2017; Birdee et al., 2014; Davis & Yeh, 2014; Frawley et al., 2015; Gardiner et al., 2015; Holden et al., n.d.).

This limited research has created a negative correlation between the women who use CAM, the lack of variety of socioeconomic characteristics, the status that drives the decisions of individuals, their use and levels of education and income (Argenbright, 2017; Bayisa et al., 2014; Birdee et al., 2014; Frawley et al., 2015; Hall & Jolly, 2014; Hwang et al., 2016; Kennedy et al., 2016; Mothupi, 2014; Pallivalappila et al., 2015;

Panganai, & Shumba, 2016; Pirinnci et al., 2018). It is recommended that further qualitative studies are conducted to reveal cultural and geographical differences regarding the motivating factors in CAM use during pregnancy (Almond et al., 2016; Argenbright, 2017; Frawley et al., 2015; Heitman et al., 2015; Koç et al., 2017; Persaud et al., 2018; Shawna & Taha, 2017; Warriner et al., 2014). The use of CAM varies globally, and it has been estimated that one-third of women between the ages of 18-45, have utilized at least one or more CAM methods (Holden et al., 2015; Hwang, 2016; Steel et al., 2014; Sullivan & McGuiness, 2015). For this reason, further studies are necessary in the field of CAM (Holden et al., 2015; NCCAM, 2016; Revell, 2017).

According to the WHO, there is little evidence-based research supporting the use and safety of CAM information for pregnant women (Davis & Yeh, 2014; Holden et al., 2015; NCCAM, 2016; Sullivan & McGuiness, 2015; WHO, 2016). It is critical to understand the perception of the population, as well as to gain insight from their experience with NVP and coping with their symptoms, and their decision-making process in choosing treatments. The WHO encourages ongoing open national dialogue to alleviate misunderstandings with policy development, harmful risk factors, and excessive use of CAM (WHO, 2016). Pregnant women, the distinctive population is interested in pathways to relieve symptoms that come with pregnancy (Argenbright, 2017; Frawley et al., 2015; Healey, 2017; Holden et al., 2015; Koc et al., 2017). Health education needs insight into the population they are seeking to serve to improve strategies, materials, and services.

Designating dissertations, articles, and evidenced-based data fell into the specific category of researched items, and full text. They all met the exclusion criteria of NVP that impacts the health and promotion behaviors of young women. The peer-reviewed articles and literature targeted themes affecting young adults from the ages of 19-30 to the reproductive age range (ACOG, 2020). The materials researched centered on the global and domestic front that impacted NVP. The goal was to maintain the research findings in the state of Michigan, explicitly targeting the metropolitan area.

I reviewed the full text of articles, Ph.D. dissertations related to HBM, and the six core constructs, including susceptibility, severity, perceived benefits, perceived barriers, self- efficacy, and cues to action, and how the illness of NVP impacted many of the women who turned to CAM during their first trimester (Glanz et al., 2015). According to Mitchell (2015), the qualitative case study related to my topic indicated that women experience an emotional roller coaster and, in turn, begin using CAM during pregnancy and introduced to products that are not part of conventional medical practice. As a result, this qualitative study revealed the reasons women seek to use CAM to expand their chances of giving birth to a healthy child (Mitchell, 2015). However, there is little knowledge for the in-depth knowledge, the use, and the meaning of CAM.

Summary

The literature review provided information on several themes central to the research questions: perception of mothers who experienced nausea and vomiting during pregnancy, the history of NVP, past treatment and the role of CAM. Gaps were identified related to pregnant women suffering from NVP, as well as the use of CAM and its

regulation (Heitman et al., 2015; Hwang et al., 2016; Frawley et al., 2015). What little information individuals can find regarding CAM are often unconfirmed sources from the internet (Koc et al., 2017; Pallivalappila et al., 2015). Individuals such as family and close friends may recommend ideas they see related to CAM and the symptoms of pregnancy, however, it is important pregnant women have access to quality information that can assist them in making informed healthcare decisions that they feel safe discussing with their healthcare professionals (Bayisa et al., 2014; Frawley et al., 2014; Holden, et al., 2015; Hwang et al., 2016; Kennedy et al., 2016; Mothupi, 2014; Pallivalappila et al., 2014; Pallivalappila et al., 2015). According to Hwang et al. (2016), the safety and efficacy of understanding CAM is essential when educating and providing adequate exposure to pregnant women's health. With the use of CAM health professionals and policy makers have become steadily concerned about certain methods that are ethical and scientific in nature of specific populations about their use (John & Shantakumari 2015; Hwang et al., 2016).

Pregnancy and childbirth represent mixed feelings, emotions, and behaviors in women's life. As a result, the literature points to the prevalence of CAM use is up to 96% globally, and that women have turned to CAM during pregnancy and childbirth journey (Mitchell, 2016; Onyiapat et al., 2017). In the next chapter of the methodology, I will define the focus on information from a qualitative thematic case study design to explore perceptions and motivations for CAM use from pregnant women. By elaborating on the researcher's role, offering thorough information on the analysis selection process, identifying a strategic sampling, the recruitment rationale will meet the needs of the gap

found in the literature. Besides, in the following chapter, sources of data collection instruments are outlined, issues of trustworthiness, validity, transferability, and dependability described along with ethical procedures from the Institutional Review Board.

Chapter 3: Research Method

The purpose of the current multiple case research study was to explore the perceptions of a sample of women aged 19-30 who have experienced NVP, to gain insight into their perceptions of the potential use of CAM modalities to treat NVP symptoms, and how they proceeded with making decisions for pursing treatment options. Chapters 1 and 2 contained background on the purpose of the study, the significance of the study, and a review of the literature that demonstrated gaps in the research related to the perceptions, attitudes, and beliefs of women who used CAM alleviated nausea and vomiting during pregnancy. Chapter 3 is a review of the methodology, research design, rationale, the role of the researcher, the approach to the study's participants issues of trustworthiness of the study, details for the data collection, analysis process, and the approach used to study participants.

Research Design and Rationale

For this qualitative, multiple case study, three research questions were designed that were derived from the synthesized literature review and driven by the conceptual framework for the study. The following questions were used as a guide for the central phenomenon of this study, women who have experienced NVP and their perceptions of CAM. The goal of the selected research design was to explore the central phenomenon of this study, to obtain the perceptions of pregnant women, and to better understand their decision-making processes. The following three research questions guided this study:

RQ1: What are the experiences of coping with NVP and its symptoms among a sample of women between 19-30 years of age, who were pregnant for the first time?

RQ2: What is the perception of using a CAM modality among women who have experienced NVP among a sample of women between 19-30 years of age, who were pregnant for the first time?

RQ3: What factors influenced the decision-making process of deciding how to treat NVP symptoms, specifically when related to using a CAM modality, or not, among a sample of women between 19-30 years of age, who were pregnant for the first time?

In determining the most appropriate method and design, alignment with the research questions and conceptual framework were considered. First, a qualitative approach was applicable because the primary goal of the study was to explore the perceptions and experiences of the participatory unit of analysis (Yin, 2018). This was done in the form of a *what* question. When asking what or how questions, case studies were most appropriate (Patton, 2015). A qualitative inquiry illuminated meanings, study how things worked, and captured stories that lead to understanding peoples' perspectives and their experiences (Patton, 2015).

In this design, there were multiple data sources identified because the specific boundaries identified between the phenomenon and its context are not always clear (Yin, 2018). As a result, the primary reason to use case study research is due to the need to

provide in-depth detail for the phenomenon of interest. Conducting case study research can further allow for rich and detailed reports.

In answering the third research question, the goal was to understand a process, or a how question. This is also appropriate for a case study approach (Yin, 2018). According to Patton, 2015), it is critical to understand the inner working of how systems function and how these circumstances impact individual's lives and the interaction of a phenomenon. In as much as the challenge of qualitative analysis remains to make sense of massive amounts of meaningful data, it is essential to understand unexpected circumstances, compare cases to patterns, and see them as emerging themes as they arise (Braun & Clarke, 2012; Braun & Clarke, 2013; Patton, 2015). As it pertains to this research, a qualitative approach utilized both in-depth case studies and comparison of cases in the chosen method (Patton, 2015). I was the instrument of qualitative inquiry, and the quality of the outcome relies on the participants of analysis, the human being (Patton, 2015).

The case study allowed for in-depth exploration, which leads to an understanding of the phenomenon's underpinnings (Patton, 2015). I used a thematic analysis approach to help pregnant women to shed light on their perspectives (Braun & Clarke, 2013). The specific location of this study was the greater metropolitan Detroit and Ann Arbor area of Michigan. The period under review was the first year after the mother has given birth and can speak to the vast experiences of NVP. Because the unit of analysis was pregnant women, multiple participants were appropriate for a multiple case study design.

The multiple case study evolved around two or more cases in the same phenomenon (Patton, 2015; Yin, 2018). The research questions played an essential role in distinguishing between the two variants studied (Yin, 2018). The simplified strategy might call for developing an in-depth survey with each individual where the case study began (Mills et al., 2010; Yin, 2018). The multiple case study design strengthened cases when there was a need for comprehensive and rigorous in-depth analysis of a particular-event, organization, situation, or social unit investigation of the asynchronous situation found in real life (Burkholder et al., 2016).

In the current design, a quantitative design would have been inappropriate as it would not be inductive. Case study design can be an efficient and appropriate way to seek answers when exploring a process that is bound by a specific unit of analysis as is the case with the current research questions (Yin, 2018). Other research designs could have been considered. Specifically, apart from case study design, other qualitative research designs include phenomenological, narrative, ethnographic, and grounded theory. Initially, it seemed that phenomenology would be most appropriate for exploring the research questions; but, ultimately this pathway was abandoned as it became clear that the primary intention of my study was not to focus on the lived experiences of pregnant women. Instead, this research study continued to understand the perceptions of the participatory unit of analysis, women who experienced nausea and vomiting during pregnancy.

A narrative analysis would have revealed stories of pregnant women, but this research would only provide a partial answer to the research questions and limited

information. While it could provide some insight into experiences, it would not allow for an in-depth exploration of perceptions, nor would it allow for any exploration of the process of decision making for how treatment decisions were being made. Finally, a clear gap in the literature currently exists related to the understanding the perceptions of women who experience NVP. Specifically, not much is known about women's perceptions of their experiences during NVP, their perceptions for using CAM modalities, or what factors influence their decisions (Ahmed et al., 2018; Pirincci et al., 2017; Sullivan & McGuiness, 2015).

After much consideration, the multiple case study approach was the most appropriate design because it allowed for rich descriptions. It allowed for detailed descriptions from individual participants, where the case study explored and was organized around two or more cases (Yin, 2018). Case study design, and more specifically multiple case study design was the most appropriate choice for this study.

Approach and Paradigm

In this study, the paradigm was a collection of facts, assumptions, and practices that guide a specific orientation to use a post postpositivist approach. (Burkholder et al., 2016, Patton, 2015). The approach questioned what is true in the real word to find objectivity that will correspond to reality (Patton, 2015). The positivist knows exactly why things happen the way they do (Patton, 2015). A postpositivist approach imparts the meanings to situations creating a specific reality (Burkholder et al., 2016).

This qualitative inquiry framework disciplinary roots for this research were constructivist, indicating that people who are emotionally engaged will construct their

reality based on what is real. They will build their existence, and their sense of truth from the study and research process. Constructivism is a postpositivist approach (Burkholder et al., 2016). The human world is different from the natural world, that which is viewed and studied in a different manner (Guba & Lincoln, 1991; Patton, 2015). This study is supported by the inclusion of feminism and gender roles.

To determine what are the perceptions and experiences of pregnant women who have voluntarily participated in the study. The concepts rely heavily on the creation of individual meanings of their realities, which is real and what is not. There is a direct opposition to the positivist concept that is often identified in quantitative designs and approaches. The key to comprehending a case study protocol is not as a field instrument, but essential as the researchers who are involved in the case. As shown above, a multiple case study design investigates a contemporary phenomenon that is different from standard qualitative research (Yin, 2018).

Role of the Researcher

In this qualitative research case study design, I was the primary researcher for data collection and made interpretations and informed decisions about the specific phenomenon of the methodology studied (Yin, 2018). I had the primary role in developing a theory and testing it. I became open to the themes that emerged from the study's data collected through in-depth interviews, documents, and a review of community resources. The responsibility is to protect and guard the data in the utmost ethical manner. I also recorded the information as it occurred (Creswell, 2018). I

protected the identities of those involved in the research and confidentiality of any information obtained throughout the study (Mills et al., 2010; Patton, 2015; Yin, 2018).

There was not any familiarity with the participants, as they were considered unknown. To further improve the validity and credibility of the research studies the focus of the study was completing the data analysis interpretations and obtaining candor about personal biases at onset of the qualitative unstructured interviews (Leedy & Ormond, 2016; Rubin & Rubin, 2012). Working in this manner helped to diminish any inequality and biased relationships as I interviewed and collected data. Besides, the qualitative research began to make meaning of large amounts of data (Patton, 2015; Yin, 2018). The role was never-ending, and it expanded throughout the entire process of the study. I condensed the information while sifting through insignificant amounts of data to identify substantial patterns to portray the thematic data analysis (Patton, 2015).

In a case study design, the role of the researcher is essential to make decisions about the specific phenomenon studied concerning the design of the methodology (Yin, 2018). According to Stake (1995), I organized the data as an instrument to keep a self-reflexive journal from start to completion of the research because reflexivity is a self-critical assessment of introspection and as a self-conscious examination of the research (Patton, 2015).

In this study, the population targeted were women who experienced NVP and open to share their perceptions of CAM modalities. In this case, I was the primary instrument to develop and sharpen the inductive reasoning, theory, and process to ascertain what was happening in the world from an ontological worldview for women

who experienced NVP. One goal of a researcher is to explore social science theories that could benefit the participants' identification and selection process for a quality study (Carl & Ravitch, 2016; Patton, 2015; Yin, 2018). Conducting qualitative multiple case study research became the role and sole responsibility. Testing an existing theme and obtaining more of an in-depth understanding of the themes emerged from the qualitative survey and data (Braun & Clarke, 2013; Mills et al., 2010; Patton, 2015, Yin, 2018). I established telephone conversations with the participatory unit of analysis to develop trust and a feeling of ease when interviewing (Patton, 2015; Rubin & Rubin, 2012).

According to Rubin and Rubin (2012), I continued to demonstrate a step-by-step process connecting the dots from the onset of obtaining the data to completing the analysis. However, I had to remember that the role was essential in bridging the gap between the data collection only to draw out the emerging design elements. When interviewing, I focused on extracting the data to make meaning of dialogues between the active participants and data (Patton, 2015). Exploring and understanding qualitative analysis required establishing a relationship with the world and the NVP participant (Yin, 2018). By looking at things differently, an emerging multi-faceted design began to relate to the phenomenon of concern (Patton, 2015).

Eliminating bias was accomplished by utilizing a convergence of data collection from a variety of different sources, to establish the consistency of information (Yin, 2018). I was unaware of the background of the participants. This was the case for the current study, this strategy diminished any potential for displacement. At the conclusion of the study, women were given specific instructions to obtain their $20.00 Amazon gift

card code. Twelve women obtained a financial incentive for participating in the study. A copy of the information obtained from the study will be made available to each one of them upon completion on my website and blog or shared with the community leader. Each one of the participants was free to volunteer without feeling unnecessary pressure. From the onset of the interview process, individuals were reminded that they were free to stop participating in the study at any time.

Methodology

The purpose of this section is to outline the methodology used for the study to obtain perceptions of women using CAM during pregnancy for nausea and vomiting and for other researchers to replicate. Designing the multiple case study for replication can help other researchers identify a case study and measure something accurately to minimize many biases built upon a methodology's design (Frey, 2018). Each choice balances both the positive and negative nature and value of the data collected. Multiple cases are considered compelling and more of a robust design (Yin, 2018). Building a multiple case study design calls for extensive resources and time. The decision to undertake a multiple case study design should not be taken lightly (Yin, 2018). This section will include an explanation of the decisions made concerning the participants identified, participant selection logic, settings, procedure for privacy of data, instrumentation, recruitment, and data collection are reviewed.

Participant Selection Logic

After receiving the IRB approval from Walden University (09-11-20-0731558), I immediately reached out to two community leaders. The name of one community partner

represented was Life Span Doulas and the second community leader represented was Maternal Serenity. I met with the two community leaders by telephone in Ann Arbor, MI, introduced myself, and shared information about the research study. At which time, I requested permission to post the NVP research flyer on their individual social media websites forums. Next, I posted another NVP research flyer in the Walden University participant pool virtual bulletin board for student members and faculty to access.

In selecting participants appropriate for a multiple case study, each woman identified for the current study fit specific inclusion parameters and the unit of analysis for each case within this design (Yin, 2014). The study population's precise details were limited to women who experienced NVP and used CAM during pregnancy. I began to recruit after the participants showed interest. The recruiting sources used were as follows:

- Doula Agency Facebook # 1 website post.
- Doula Agency # 2 Facebook website post.
- Posted the research study in the Walden University IRB participant virtual bulletin pool.

The Walden University virtual bulletin board was offered to members of the Walden University community for individuals who wanted to partake in studies conducted by Walden's students and faculty. It took less than 10 minutes to schedule an interview and review the instructions on how-to complete the informed consent. All data were collected, stored, and safely saved in a specific computer file folder titled Participant Interviews.

According to ACOG (2020), the women targeted were between 19-30 years of age and were inclusive of the reproductive age range. The goal was to clarify and expand the information provided and explore any unanticipated information, thereby understanding the phenomenon under study. The research participants completed a brief questionnaire identifying demographic (Appendix A) characteristics of age, educational level, and cultural background at the onset of each interview. Next, I conducted phone interviews using Rev.com digital phone recorder and transcribed the data by hand simultaneously so that valuable information was not missing.

Sampling

Throughout the qualitative interview process, participants provided opinions, views, and perceptions of their issues or concerns regarding NVP and using CAM during their pregnancy (Patton, 2015). The initial recruitment phase and interviews provided a springboard of knowledge to obtain a more in-depth understanding, which evolved with each conversation. This study's population included a sample of mothers who have given birth within the previous 12 months, who have also experienced nausea and vomiting during pregnancy. The study targeted only participants who live in Detroit's city and surrounding major metropolises across the entire state of Michigan. Recruitment occurred using a stratified purposeful sampling strategy, such as snowball or chain sampling, to begin an information-rich interview (Patton, 2015).

This process established discussions and asked for additional contacts to refer individuals they may know. This strategy created a chain of people and a snowball effect of people who knew one another. As a result, the process provided a dependable source

of referrals to assist the recruiting process and manifest the specific intended audience. The purposeful sampling included women from various backgrounds with various socioeconomic groups, who worked in different employment categories and marital status. I used open coding, an essential methodological tool used between conversations, voices, actions, and events collecting raw data for the study (Mills et al., 2010). Using open coding increased the degree of intuition required to translate word for word using theoretical sensitivity and conceptual chunks of information (Mills et al., 2010). Open coding also provided a clear audit trail for replication.

According to Daniel (2012), the sample design determines the importance of sample size, and it differs from one design plan to another. As in the case study design, I looked for approximately five to 10 people. The research approach for identifying information-rich key informants begins with asking people of like minds who do they know. By asking five to 10 people who I can talk with starts the snowball-chaining effect, which expanded in numbers as I continued gathering new information-rich cases (Patton, 2015). The research design used is a purposeful sampling strategy identified as a snowball or chain sampling. Identifying an information-rich chosen sample where each person identified yields leads to others who become valuable sources. Because of their relationships' closeness, these specific sources understood the criteria called for in the study between CAM and NVP in this case study design.

Corbin and Strauss (2008) defined saturation as a term indicating no new data is emerging from the research. Data saturation was achieved after interviewing 12 participants, and the sample size for this study was 12. Saturation refers to the

development of categories and concepts that are emerging. I included theoretical sampling a method incorporated into the data collection where things began to unfold in layers. The purpose of incorporating theoretical sampling is to collect data from places, individuals, or events that will have a more significant impact and maximize opportunities to expand and uncover relationships between concepts (Corbin & Strauss, 2008). Theoretical sampling complemented the snowball-and chaining recruiting strategy because it consisted of targeting concepts, not sampling persons (Corbin & Strauss, 2008). I looked for indicators that examined the data to explore how the concepts vary from one condition to another. Data collection drove the analysis.

The goal was to hold semistructured interviews by phone to determine if they fill the appropriate need for recruitment. It was best to develop a benchmark to utilize whether pregnant women have given birth within a year and fulfill the criteria and guidelines. In addition, to have experienced NVP and able to engage in the outlined interview process. The age of the participants fell between 19 and 37. None of the participants were pregnant or exposed to mental illness. From the onset, participants received notification that it was a voluntary process and were free to discontinue their participation at any time. All participants received information about their voluntary options for engaging in the interview process, which would not cause them stress.

Participants and Setting

These participants were women from neighboring agencies throughout the Detroit metropolis area that support pregnant women. Detroit is one of the largest cities located in the midwestern state of Michigan. The Detroit urban area served as the core metropolis

and ranked the 11th most popular urban town in the United States. The metropolitan area covers parts of the following counties of Macomb, Oakland, Wayne, and Washtenaw. The study covered other major cities such as Ann Arbor, home of the University of Michigan, and Lansing, the state of Michigan's capital and home of Michigan State University. All the participants met the following criteria. (a) they ages ranged between 19 and 30 years; (b) were not pregnant at the time of the study, nor were they pregnant at the time of the interviews; (c) they experienced a live pregnancy in previous 12 months or more that included nausea and vomiting; (d) they were not diagnosed with a mental health condition; and (e) they were willing to share their experiences, perceptions, and decision-making processes related to diminishing ways to alleviate nausea and vomiting during their pregnancy.

Purposeful sampling, snowballing, and chaining process for recruiting takes place by asking, "Who do you know" which becomes a standard part of a recruiting campaign to select and identify appropriate participants for interviews. The intention is to start with a few individuals then ask for additional relevant contacts who can provide different or confirming perspectives. Thereby creating a chain of interviewees who know other people that they know are excellent resources given the focus of inquiry. The interviews were composed of open-ended questions (Appendix B). The research questions are as follows:

RQ1: What are the experiences of coping with NVP and its symptoms among a sample of women between 19-30 years of age, who were pregnant for the first time?

RQ2: What is the perception of using a CAM modality among women who have experienced NVP among a sample of women between 19-30 years of age, who were pregnant for the first time?

RQ3: What factors influenced the decision-making process of deciding how to treat NVP symptoms, specifically when related to using a CAM modality, or not, among a sample of women between 19-30 years of age, who were pregnant for the first time?

Procedures for Recruitment, Privacy of Data Collection

Following a solid strategic plan is essential when recruiting participants and collecting data for a study (Creswell, 2018; Patton, 2015). The researchers are responsible for obtaining and analyzing all of the data for the study. However, before beginning the recruiting and the data collection process for the study, approval is necessary from Walden University and the IRB committee. Once approval is obtained, then gaining and maintaining the data includes ensuring that all interactions are logged as the data are collected. Having a proper audit trail of all actions ensures rigor for the study is maintained and ethical protection for the data is assured (Creswell, 2018; Yin, 2018). For the current study, the log was kept using a Word document. The Word document captured only necessary documented information, which was kept in password protected and encrypted files.

Because of confidential data collection coming out of this study, data may become available from direct and indirect identifiers from the individual participants. The names of the participants were changed to ensure protection of participants. All data

collected were carefully protected to ensure research did not revealed personal information for any purpose from the specified research project. Pertinent data and all research information containing personally identifiable information will be stored in a PDF or electronic file on a restricted access personal computer, that is password protected.

Recruitment

Recruitment began through online social media groups for mothers. Specifically, several online social media Facebook groups targeted for inclusion included: Mother to Mother Doula Groups and Walden's Participant Pool. I began with a recruitment posting that solicited volunteer participants to e-mail the researcher (Appendix C). I used social media recruitment with referral snowball sampling to engage more volunteers to participate in the study and to include individuals who may not participate in social media platforms. I responded by way of email and telephone to establish contact and to set up a time for the interview.

Participation

Participation in the study required a signed, informed consent prior to beginning the interviews (Appendix D). The general rule of thumb (Yin, 2018) can be applied to most case studies with an assumption that possibly 12-20 individuals might be appropriate for researching data saturation for this case study. However, I interviewed 12 participants until saturation of data was completed. While data analysis happens in tandem with data collection during case study designs, without data saturation, then final

thematic analysis can be skewed, or a theory may be considered unbalanced (Given, 2008). The final sample size depends on the context and content under consideration. Participants were reminded that they could stop the interview any time they became uncomfortable. Each participant conducted a member checking to ensure that notes were correct and captured accurately upon the interviews' conclusion.

Data Collection Methods

Instruments

Content validity was established by comprehensively measuring interview questions to represent the construct (Ruel, 2019). According to Salkind, 2010 a standard method to assess content validity could involve judgments of two or more subject matter experts (SMEs) who are considered experts in their field of study. I invited field representatives, considered SMEs, a clinical midwife, gynecologist, and a licensed Doula, tested the interview questions, and measured content validity in this study by reviewing and measuring the 19 interview questions. First, recognizing the concept's dimensions, then creating a list of possible alternative interview questions that can compare, contrast, and measure the dimensions and any subdimension about the idea (Ruels, 2019). I also used Survey Plan Qualifying Criteria Survey (Appendix F),which was utilized as list of Complementary Alternative Medicine (CAM) remedies, herbal mixtures, herbal teas, multi-vitamins, and modalities that were identified as CAM options for the participants to appropriately select which one was used during NVP to alleviate nausea and vomiting.

As the main tool for the research, I collected and gathered the data in a case study design (Yin, 2018). I became the main tool for the multiple case study. However, there

are other instruments necessary to answer the research questions. As there were not current instruments available, already published, that would be appropriate for this exploratory qualitative multiple case study, the first task I developed appropriate instruments. This included the Interview guide (Appendix A), research instrument questionnaire (B), the informed consent (Appendix C), the research advertisement (Appendix D), the demographic questionnaire (Appendix E), the qualifying criteria (Appendix F), social media (Appendix G), informed consent participant log (Appendix H), permission to use artwork (Appendix I), audio recording notes log (Appendix J), community health resources (Appendix K), and participants transcripts (Appendix L) . The guide and each of the questions were generated by me, and included self-report questions, which were demographic, related to the experiences during pregnancy, provided further insight into perceptions about CAM modalities, and provided opportunities for open ended feedback from participants to explore their decision-making process in choosing a treatment plan. Table 1 provides and alignment of the research questions, HBM core constructs and interview questions.

Table 1

Alignment of Interview Questions, Research Questions, and Health Belief Constructs

Interview questions	Research questions	Health Belief Constructs Models
1. Describe your transition to motherhood. Use specific examples of what it has been like for you?	RQ1	Perceived susceptibility
2. How did you know you were susceptible to Nausea and Vomiting during Pregnancy (NVP)? Please elaborate.	RQ1	Perceived susceptibility
3. How would you describe your experience having NVP when you were pregnant? Give some examples of times it affected you.	RQ1	Self-efficacy
4. What was your perceived severity of NVP? Would you have called it mild, moderate or severe? Please explain.		Perceived severity
5. How did your friends and family react to your experiences with NVP? Use examples.	RQ 3	Perceived barriers
6. What did you know about NVP prior to becoming pregnant?	RQ 3	Perceived susceptibility
7. What did you do to educate yourself on the topic of NVP?	RQ 1	Perceived benefits Self-efficacy
8. What barriers did you experience addressing your NVP and did that impact your ability to manage NVP effectively?	RQ 2	Perceived barriers Perceived benefits
9. What are some of the various things you tried when you were experiencing the symptoms of NVP to	RQ 1	Self-efficacy

	feel better? Please elaborate.		
10.	Now define Complementary Alternative Medicine (CAM). Do you know what CAM remedies are?	RQ 3	Cues to action Self-efficacy
11.	What is your perception of CAM to address NVP?	RQ 2	Perceived benefits Perceived barriers
12.	Have you specifically used any of the CAM methods (according to the qualifying criteria list (Appendix F) to address NVP? If so (ask questions 13-15).	RQ 3	Cues to action
13.	How many of the CAM modalities (from the Appendix of form F) did you use to address NVP?	RQ 3	Self-efficacy
14.	Did you perceive any specific benefits to using CAM for your NVP? Can you name any?	RQ 3	Perceived benefits
15.	How much time did it take to administer a CAM remedy or protocol during the day?	RQ3	Cues to action
16.	Did integrating a CAM remedy during the day affect your work or your responsibilities? Please describe.	RQ 3	Perceived benefits
17.	Can you describe the perceptions of your friends and family members concerning CAM?	RQ 2	Perceived benefits Perceived barriers Cues to action
18.	Thinking about all of these things, your NVP, your strategies to address it, the barriers, and what worked, or didn't work – what would you say most influenced your decisions in how you tried to treat your NVP symptoms?	RQ 3	Perceived barriers Cues to action Self-efficacy Perceived severity
19.	Can you describe what	RQ 2	Perceived benefits

	you think is most important for pregnant mothers in helping them make the best-informed choices for dealing with NVP and finding good treatment?	Perceived barriers

Interviews

Using the semistructured, open-ended interview technique provided a flexible conversation to expand, explore, and possibly uncover the feelings at the heart of mothers who experienced nausea and vomiting during pregnancy. At the onset of each interview, mothers-built rapport through an honest and open conversation. The interviews allowed participants to establish questions and answers. As a result, the interview questions were open-ended. This process limited the participants from answering questions with only one word. The interviews took place by telephone. An interview guide assisted participants in maintaining their focus throughout the interview process. (Appendix A).

While in-depth interviews provide more comprehensive information, there are some limitations (Patton, 2015; Rubin & Rubin, 2012; Yin, 2018). The in-depth interview is time-intensive, and the training and skill played an essential part in collecting data. However, using the in-depth qualitative semi-structured interview style of interview with the interviewees helped extend conversations naturally (Rubin & Rubin, 2012). The interview style placed credence on the kind of information obtained and influenced the desired nature (Patton, 2015). By establishing open-ended questions or prompts, participants shared more about that specific experience desired during their interview.

I was mindful that all interview questions are in order, and the words might change at a given time to create insights (Patton, 2015; Rubin & Rubin, 2012). Each meeting varied, depending on how comfortable or communicative an interviewee felt or how honest they decided to become (Patton, 2015). The key was to avoid creating a

lengthy list of questions and adapt to a qualitative inquiry building descriptive questions (Patton, 2015).

Some guidelines recommended by Rubin and Rubin (2012) and Patton (2015) were be followed, including the following:

l. I proactively identified the questions. An interview guide was designed (Appendix A) and interview (Appendix B) created for the specific purpose.

2. A suitable location identified. The interviews took place by phone in a quiet and comfortable location which was free from interferences.

3. Maintain rapport with the interviewees. I had a telephone and an email conversation with the participant to establish a rapport and confirm the logistics of the interview's date, time, and site. At the time of the telephone interview, a cordial salutation was exhibited toward each interviewee. Professional and courteous language was used that showed respect and genuine care for the participants time and willingness to participate.

4. Verbal and written consent. The participants signed a copy of the informed consent. Interviewees were reminded about the confidential nature of the study and the use of confidential codes and that they should feel comfortable to stop the study or leave at any time they feel uncomfortable.

5. Recorded and transcribed Rev.com audio recordings were made to ensure clear accuracy of transcription. Rev.com transcription digital telephone

recorder allowed for clear engagement during the interview along with accurate and precise note taking.

6. I maintained a professional expression without any reactions. Bias can be communicated through body language and facial expression. It was crucial to remain focused to obtain reliable quality data, build a good rapport and not to express the viewpoints about any feedback related to their interview experience. Follow up questions were designed where appropriate, to maintain focus, and to provide rich data.

During the interview session, the information was gathered from participants to record their clues and to observe their voice reflection. The data obtained provided insights to information evaluated from individuals' telephone interview. Rev.com digital audio recordings and transcription of notes simultaneously were made possible to collect perceptions, audio observations, and voice reflections while the interview was ongoing. The length of the interviews varied from 30 to 126 minutes in length. I reviewed the digital recordings for clarity and preciseness. The transcripts were recorded verbatim for the exception of any unnecessary and unneeded repeated words were checked by the independent reviewer (Appendix L-W). I elicited the support of at least one independent qualitative reviewer who earned a Ph.D. in Communication Sciences to examine the raw data and to review and work collaboratively to establish reliability. We partnered on reviewing chunks of data, developing codes, categories, and themes. After I completed obtaining data from my participants, I submitted my chunks of data developed in a word document and converted it to an excel document at which time the independent

qualitative reviewer used the outline established for the data collection process, and data analysis to establish the preliminary and final code book to assure no biasness. (Appendix Y-Z). I used audio recordings and note taking for the data collection process. The quality of the digital device I used to record the telephone conversations was an adequate choice.

I reviewed the data, collected it for accuracy, and ensured participants' data was protected during their interviews. I conducted a 15 to a 30-minute phone call to clarify any unresolved questions called the member checking process upon completing the interview on the same day with all the participants. Each participant received a copy of the transcript to review as a follow-up. Only one person sent the document back, indicating specific changes to the transcript. I also reinforced the safety and confidentiality of the data. I explained how, why, and when and the process for the hard copy notes of transcription are destroyed five years from the dissertation completion date. I extended my gratitude to each participant for taking the time from their busy lives to share their perceptions of using CAM during NVP during their pregnancy.

Data Analysis Plan

I applied a qualitative case study methodology. Each interview examined the individual as a participatory unit of the analysis of this study. Details of each case incorporated open coding and sorted into themes that could emerge numerous times throughout the data until I achieved data saturation. The process began with analyzing and organizing the data and creating primary and secondary categories. Listening to Rev.com digital recordings was followed by reading the transcripts four times, followed

by reviewing the coding. I analyzed, reviewed, and provided comparisons of already-coded data (Patton, 2015).

The data were sorted, coded, and analyzed to identify themes. This process of coding was achieved by hand (Braun & Clarke, 2013). All the transcribed data became transported onto a numbered Microsoft Word document that transitioned extracts of collated data onto an Excel spread sheet (Braun & Clarke, 2013; Patton, 2015). After completing the final stage of collated data with an independent qualitative reviewer we reviewed the finer distinctions to obtain unbiased information for each final code individually (Braun & Clarke, 2013). The qualitative data analysis was captured and managed an efficient style of coding. I used a reflexive journal combined with an Excel spreadsheet to manage data more efficiently and effectively.

Excel and Microsoft Word were useful for organizing large chunks of coded and collected data derived from the interviews, transcribed documents, and resources utilized. After reading transcripts of the data to become familiar with them, hand coding was done to engage in chunking larger phrases and sets to look for categories of information, next these were broken into shorter themes. Codes became clear as the process continued with the same categories and words, with similar meanings, showing up with increased frequency (Yin, 2018). Emerging themes evolved from the interviewees' perceptions and experiences came from the participants interviews. The identified items examined ensured that the appropriate codes were obtained from the interviews. Fragments of codes, ideas, and concepts were brought together into data sets which were then

interpreted (Yin, 2018). Conclusions were drawn based on the themes, trends, and information found in the data (Yin, 2018).

It is vital to have a quality improvement plan for the data collected for the research (Creswell, 2018; Patton, 2015; Rubin & Rubin, 2012). The data collection plan ensured stringent guidelines and standards to attain valuable data (Patton; 2015; Stake, 2006). The next section explained the process undertaken to increase the trustworthiness of the study.

Issues of Trustworthiness

The integrity, reliability, and interpretations of the findings depended on laying the foundation on trustworthiness. I took a constructivist viewpoint towards trustworthiness, which was my responsibility to protect the data that were ethically collected. One most crucial aspect of qualitative research was accomplished by establishing rigor during the study (Guest, 2012). There were various pathways for formulating trust to replicate the findings of the research study with a distinct research sample (Guest, 2012), such as spending an adequate length of time during the interview and obtaining persistent listening skills are most relevant and critical in establishing honesty. The time spent with the research participants was to produce a frank, comprehensive, open-ended conversation building strong relationships leading to accurate data (Patton, 2015). Lincoln and Guba (1985) proposed a theory of how to build trust in a qualitative research of trustworthiness. The authors believed to formulate truth as a systematic set of beliefs, combined with their accompanying method paradigm is

considered a world view which creates a methodology that emerges with a current set of beliefs. As a result, the paradigm arrived at a current truth (Lincoln & Cuba, 1985).

According to Lincoln and Cuba (1985), if a paradigm of thought and belief is emerging, it is necessary to construct a parallel new paradigm of inquiry. The authors further explained the foundation of qualitative rigor, indicating how best can a researcher convince their audiences (and self) that by finding an inquiry is worth paying attention to (Lincoln & Guba, 1985). Positivist investigators usually questioned the trustworthiness of qualitative researchers because reliability and validity cannot be addressed in similar as a in naturalistic work (Glaser, 2004). Lincoln and Guba's life's work broached same issues in four constructs equal to the positivists investigators guidelines (parameters) as follows: credibility (in preference of internal validity), transferability (in preference to external validity/generalizability), dependability (in preference to reliability), and confirmability (in preference to objectivity; Guest, 2012; Lincoln & Guba, 1985).

Credibility

Internal validity or credibility provided the results that are derived from the data and were legitimately based on actual information. After transcribing the interviews, it was necessary to email the participants a copy to check for efficiency and accuracy and to make changes. As a result, the interviewees reviewed a set of guidelines and checked a copy of their transcripts for accuracy of themes completing the session during the member checking process. Reviewing the case summaries improves the credibility of the interviewed data and research. (Rubin & Rubin, 2013). The strategy practiced enhancing credibility was a persistent observation by spending an extended amount of time and

involvement in the field exhausting any new emerging data revealing evidence that saturation had achieved (Mills, 2010**).**The standards evaluated the rigor in qualitative studies and utilized as a guide (Patton, 2015). Credibility is thought of as an essential part of the critical research design (Creswell, 2018).

Credibility also emphasized that qualitative researchers could develop logical approaches that integrated and worked well with one another (Ravitch & Carl, 2016). The value of qualitative research determined credibility as an essential first step in verifying the findings and determined the pattern. All participants have the freedom to review their case analysis before the final stage of submitting the information. The participants had a chance to review the data for accuracy based on their perceptions. In summary, credibility was a strategy to create checks and balances, verifying the transcribed data for accurate information (Ravitch & Carl, 2016).

Triangulation was maintained by taking a different approach of reviewing and, examining the data that was under study a variety of times to authenticate interpretations, and confirming the data (Flick, 2007). The triangulation process was managed and applied by analyzing qualitative data using several approaches. Thematic analysis identified and reported themes found within the data. The investigator triangulation method was used by collaborating with different reviewers or interviewers to minimize biases. The methodological triangulation for utilizing within-method and between processes was used as a part of the inclusion criteria to qualify participants (Appendix F). My purpose was to maintain triangulation by adding breadth and depth to the analysis eliminating bias pursuing an objective to obtain the truth (Flick, 2018). According to

Flick (2007), utilizing different data types provided different views called slices of data. Theoretical sampling used for saturation was considered a multifaceted approach. Theoretical sampling is a simple yet highly effective tool that can spark additional insights and save time. Theoretical insights are useful when comparing events, activities, or even time-periods from codes and themes. (See Appendix Y and Z for review of preliminary and final codes and themes) (Emmel, 2013). Theoretical sampling is a reminder to utilize constant comparison by review emerging themes and subgroups while examining the data collection (Flick, 2018). There were no boundaries when using a variety of data collection techniques. Nineteen interview questions were the focal point as a primary data collection method (Appendix M-X). A demographic survey was utilized as an active data solicitation (Appendix E) including emailing a survey of CAM remedies for completion to determine the number of individuals instrumental in the population targeted and what CAM remedies were used to prevent NVP (Appendix F; Boslaugh, 2008).

The term *reflexivity* is used in qualitative inquiry to ground the in-depth nature of emphasizing the importance of deep introspection. Reflexivity involves the interpretation of an interpretation. Reflexivity uses mindfulness as a specific pathway to empathic neutrality (Patton, 2015). Reflexivity and triangulated saturation inquiry required a keen sense of awareness to make common sense of these strategies, patterns, and interpretations in the qualitative case study (Patton, 2015).

Transferability

To maximize the transferability of the participants, a diverse population of women who experienced nausea and vomiting during pregnancy was chosen (Miles et al., 2014). The women's ages ranged from 19-30, and a purposeful sampling strategy was used to increase diversity. One way to exaggerate transferability for the participants was to seek a varied population of women who experienced NVP during pregnancy, included multiple perceptions of CAM modalities, and target broadly across the reproductive age group. The goal of qualitative research was to make sense of large amounts of data and to determine what the data revealed (Patton, 2015). In other words, transferability is a way that qualitative studies transferred and maintained a more robust text. According to, Lincoln and Guba (1985) asking an essential question to understand the transferability and external validity of the concept was essential.

Incorporating a thick and rich description of the participant's responses of NVP provided substantial data that makes sense of the social world (Appendices L-W). According to Mills et al. (2014), a thick description is defined as an ongoing process to achieve the level of insight that opened the data to further interpretation, making transferability much more comfortable to evaluate. Incorporating a thick description provided an interpretative account of the social context and circumstances. The purpose of expanding the research lens encouraged other ways of focusing on the rich detail present in every case study research setting. However, a thick description is not an exact science; in this case it is an interpretive approach to understanding the many-faceted layers going on in and around the social world of women experiencing NVP during

pregnancy. A foundational pillar constructed knowledge that represented the interwoven fabric of human understanding of NVP and CAM (Mills et al., 2010).

Dependability

Dependability is necessary to obtain the stability of all the data utilized and documented for the research process. It was equally important to understand that qualitative research studies were viewed as dependable and consistent (Miles et al., 2014). Ensuring the dependability of a study entailed that a I strategized how to collect data and align approaches with the research questions. Triangulation methods are more than just combining several methods in a study. Triangulation was used across a qualitative inquiry, to investigate dependability. I used triangulation as a strategy to explore dependability and to carry out auditing. The sources of data gathered from interviews, demographics, participant CAM criteria survey and the transcripts, yielded a different result and outcome in the study. (Appendix E, Appendix F, and Appendix L-W). A peer review verification panel were invited to debrief the interview questions. The interview questions were placed under scrutiny for flow, continuity, and interpretations. The panel consisted of a gynecologist (GYN/OB), licensed midwife, and licensed Doula who were responsible for verifying and validating the interview questions. Triangulation offered possibilities to deepen the understanding to explore the research questions and alternative realities (Givens, 2008; Salkind, 2010).

The following measures demonstrated trust in the study findings. An audit trail generated by a research log outlined (Appendix AA) documentation of events with participants, screening dates, consent agreement, the interview date, the length of the

interview recording, and an interpretation of their reactions (Appendix AA). Triangulation was also used to combine a variety of methodological techniques to question methods and not taken for granted (Flick, 2018). Main critiques addressed the idea of validation results through triangulation with other data. The concept of a master reality behind the use of several methods was to reduce bias. Thematic analysis analyzed and reported themes within the data. The investigator method collaborated with the variety of field notes, and interviewer's information minimized data, and lastly, statements of participants qualifying surveys were collected and reviewed (Flick, 2018). Triangulation in this multiple case study served to ensure clarity, meaningful, free of research bias, and not misleading (Stake, 2006). Triangulation across the research was used for dependability. Auditing can also be carried out to allow another research to follow the audit trail generated.

Confirmability

Confirmability compliments objectivity, especially when I considered an unbiased approach that reflected the need to match data. As a result, the data identified demonstrated the integrity of data and presented transparent and credible information. Reflexivity can be viewed on a continuum, and it is a tool to understand how to examine and influence the research better. Interpreting reflexivity can be construed when reviewing individual journal entries, transcription notes, demographic surveys, and CAM criteria surveys. According to Finlay (2012), ethical reflexivity examines processual aspects and power dynamics, allowing ethical implications of the data to be revealed. Reflexivity was interpreted on calls with individuals who were encouraged to think of

using context journal entries, and transcription notes (Givens, 2008). The data and the researcher's findings reflected in the integrity of the data were transparent and credible. Reflexivity was calling to, in part, a deeper introspection to keep an account of the entire process, of journal entries, which include transcription notes to ensure ethical considerations and confidentiality (Patton, 2015). Qualitative researchers do not always seek objectivity. The information must still be confirmed. One way I delved deeper into confirmability was to explore the biases, prejudice of the data to the fullest extent, possibly implementing triangulation strategies (Patton; 2015; Stake, 2006). Triangulation of theoretical perspectives was utilized by having robust conversations about the subjects with an independent qualitative reviewer regarding the transcripts and qualitative methods. Further analysis of qualitative interviews and discussions were collaborated with others to review the interviews as

field notes with a Licensed Midwife, Licensed Gynecologist, and Licensed Doula (see interview questions Appendices L-W). Further review of reports completed by interviewees found in Appendix F was a CAM qualifying criteria survey to process other robust data collection regarding the applicants and demographic survey. My purpose was to eliminate bias and to enable the truth (Flick, 2018). In the current study, confirmability can be maintained through audit trails and reflexive journaling (See Appendix Y). Excerpt of Reflexive Journal: Again, I had to remind myself to describe my thoughts immediately and to distance myself from the emotional outcome shared during the interview with participant number one.

1. A reminder to ask myself during the reflection period, what would I have done differently during this interview as a part of the quality improvement process for the next round of interviews and to capture integrity.
2. I listed the takeaways from the interview: Concise, organized, gentle/compassionate, outstanding heart felt perceptions from the applicant, the applicant was open and honest.

Ethical Considerations

According to Piekkari and Welch (2018), the role of the researcher is to protect the research participant's identity and data obtained during the research process. I had an ethical position of responsibility to identify affiliations that impacted the participants findings (Stake, 2006). I followed all the rules established by IRB including all of the comments, consultation, and consent obtained from the research ethics committee (USDHHS, 2016). I followed all of the rules and regulations and abided by the principles of ethical conduct: do not harm, protect the privacy and unintended breach of confidential information and anonymity of the participants, and adhere to the confidentiality of information. Numerous precautionary processes tend to improve the standards and decrease the probability of an ethical breach in research. They began with an informed consent, use of protective pseudonyms, and ethical record-keeping measures. Confidential research implies to the subjects that data is private, and the information protected nonrecognizable information available to others (Kvale, 2007).

The participants signed an agreement releasing identifiable information that would protect the data, unintended breach of confidential information and intrusion on others' privacy. I coded identification assigned to all participants. Confidentiality agreements assigned to transcribers and translators or anyone who might view data containing identifiers found in the study. I was the only individual had access to the data. According to Lewis-Beck et al. (2004), a plan to establish organization, sort summarize, and store data was essential throughout the iterative process. The iterative process, qualitative research, data management, and data analysis were an integral part of the procedure. The confidentiality of data and placing records in secure and safe places was essential. As a result, all paper reports, audio-transcription recording data, and file backups were locked away in a file drawer cabinet. I protected all participant information using password-protected files, deidentifying all data, and only reporting aggregate data where possible.

The protection of participants was of utmost importance as this information could dissolve and negatively influence all and the institution (Walden University, 2019). Protection began with including informed consent, the use of participant registration number and ended with keeping ethical records. I followed the standard for Walden University's capstones to mask the identity of any partner agency or organization utilized in any published reports, data collection, and identification of potential volunteers. Participants signed the informed consent letter, and I was he only person who had access to the data. The documents clearly outlined the possible ethical challenges that could

happen in qualitative research. I abided by a list of precautionary measures to ensure the application of ethical procedures (Patton, 2015).

I received an IRB approval from Walden University prior to all data collection. Obtaining this notification indicated that the review of the study received approval for safety and ethical measures. A related issue of confidentiality began with concealing names, locations, and other distinguishing categories to protect people from harm (Patton, 2015). All necessary forms, such as privacy confidentiality measures paper, audio recording data, file back-ups, were stored in a secure file cabinet. All electronic data were password protected again, to protect all participants following requirements for 5 years from the completion of the publication findings (Walden, 2020). After the five years have surpassed, it is safe to destroy the research, removing all identifiable information and disposing of the material using a shredder or an incinerator.

Summary

Chapter 3 was an explanation of the research design, the role of the research methodology and issues of trustworthiness. My role as the researcher was to clearly define the steps to design and to illustrate the research questions, rationale, and methodology. A qualitative research design was available to recruit a sample of women who gave birth, within the last 12 months, experienced NVP, and were willing to share their perceptions on CAM. This section also provided details on the data collection, intended thematic analysis, and recruitment plan.

This multiple case study involved up to 12 participants and I recruited participants until saturation was reached. Recruits included women who met the inclusion criteria

from within the state of Michigan. Each volunteer signed their informed consent to participate, engaged in an in-depth interview procedure, and then proceeded with member checking. Finally, emerging themes were developed from the data. Social and public health education significance from this study were expected to provide important insight into future health education strategies, tools, and services for women experiencing NVP. In the next chapter, I included a detailed description obtained from the data collection instrument addressing the alignment of each HBM constructs, RQs, and the interview questions. By analyzing the data, I later created themes and findings that illustrated mothers' perceptions of using CAM during NVP while pregnant.

Chapter 4: Results

Introduction

The purpose of this multiple case research study was to explore the perceptions of a sample of women from the Detroit, MI metropolis area who have experienced the phenomena of NVP, and their pathways for relieving symptoms. I sought to identify perceptions of the identified sample in their use of CAM as a tool for addressing NVP. There is little to no research explaining the perceptions and pathways for how women experiencing this common illness are relieving their symptoms.

I applied a participatory framework using the HBM to better understand the perceptions of the community under investigation from the view of the members themselves (Glanz et. al., 2015). The HBM contains core constructs generated from social and behavioral sciences that provide health practitioners an opportunity to evaluate and access specific health problems (Boslaugh, 2008; Glanz et. al., 2015). The current iterative qualitative multiple case study design methodology sought to contribute to the current body of knowledge in its application of a thematic analysis after interviewing a sample of women who experienced NVP.

The goal of this study was to understand the connection between women with a history of NVP, their perceptions of CAM, and their decision-making processes better. The results are expected to contribute to improved health education materials and serve improved strategies for the population under study. This research study was guided by the following research questions:

RQ1: What are the experiences of coping with NVP and its symptoms among a sample of women between 19-30 years of age, who were pregnant for the first time?

RQ2: What are the perceived benefits and perceived barriers of using a CAM modality among women who have experienced NVP for a sample of women between 19-30 years of age?

RQ3: What factors influenced the decision-making process of deciding how to treat NVP symptoms, specifically when related to using a CAM modality, or not, among a sample of women between 19-30 years of age, who were pregnant for the first time?

Chapter 4 described how the research setting and study was conducted. The study's purposive sampling population and the demographical characteristics are presented followed by a description of the interview process. Chapter 4 presents the steps used to transcribe and analyze the data. The data analysis process is described concerting the codes, categories, and the themes that emerged from the data using quotations to explain the meaning from the participants.

Setting

There were no personal or organization affiliations that influenced the participants in this research study. All participants recruited for this study signed the informed consent obtained approval from the Walden University IRB. Delimitations for the study included participants who lived in Detroit and surrounding major metropolises across the

state of Michigan. All the participants who volunteered for the study met the inclusion criteria.

Demographics

When reviewing the population for this sample it was notably a very homogenous sample. While it was not my intention to seek a homogenous sample when selecting participants, it is noteworthy that the characteristics of the sample portray several strong similarities across multiple demographic characteristics. The sample characteristics for the sample are presented followed by an analysis of the demographics with potential reasons for this homogenous nature of the sample discussed and finally further discussion of the sample as a limitation and implications of the sample will be explored in Chapter 5.

The gender of the sample is limited to females by the nature of the research inquiry, therefore all participants for the sample were the same gender. All participants also reported being the same race and selected that they were White. The participants' ages ranged from 25 to 30 years. The education level of the participants ranged from high school graduate to master's degrees. The participant's employment status included three self-employed participants, four participants were employed part-time, four participants were employed full-time, and one participant was a full-time student at a university. Eleven participants noted that they were married, while one participant stated they were in a domestic partnership. Although, additional questions were required to determine an individual's income earned in the household. The household income of the participants ranged from 50 thousand to 150 thousand dollars (Table 2).

Table 2

Demographics of the Participants

Participants	Age	Gender	Ethnicity	Education	Employment Status	Marital Status	Household Income
Participant 1	25-30	Female	White	Bachelors	Self-Employed	Married	100-150K
Participant 2	25-30	Female	White	Bachelors	Self-Employed	Domestic Partnership	50-100K
Participant 3	30+	Female	White	Bachelors	Self-Employed	Married	Over 150K
Participant 4	25-30	Female	White	Bachelors	Employed PT	Married	10-50K
Participant 5	25-30	Female	White	Bachelors	Student	Married	Over 150K
Participant 6	30+	Female	White	MBA	Employed FT	Married	Over 150K
Participant 7	30+	Female	White	MSW	Employed PT	Married	50-100K
Participant 8	30+	Female	White	Bachelors	Employed FT	Married	100-150K
Participant 9	25-30	Female	White	Some College	Employed PT	Married	Below 10K
Participant 10	25-30	Female	White	Masters	Employed FT	Married	100-150K
Participant 11	25-30	Female	White	High School	Employed FT	Married	100-150K
Participant 12	25-30	Female	White	Masters	Employed PT	Married	50-100K

Data Collection

The data collection process started in October 2020 and ended in November 2020, a total of 3 weeks. The final IRB approval was received from the Walden University IRB board in October 2020, and soon after, the data collection began. Recruitment began through online social media groups for mothers. Two DOULA online social media Facebook groups were targeted for inclusion. A target marketing recruitment was posted to solicit volunteer participants to either email or telephone the researcher.

Media recruitment was used to generate initial contact with interested members of the population, and this was further supplemented with snowball sampling to engage volunteers to participate in the study, and to include individuals who may not participate in social media platforms. Once a participant expressed interest in the study, I responded to the participants by way of email or telephone to set up a time to complete the screening process and the informed consent process. If a participant was eligible then they could move forward with the interview. Eight out of the 12 participants were recruited in the month of October 2020, while the other four participants were recruited in the month of November 2020. While further recruitment was considered, at this stage saturation had been reached with participants repeating the same answers.

Prior to beginning the interview, all eligible participants had to read and complete the informed consent form. Participants were tracked only using assigned numbers once the informed consent was completed to maintain confidentiality. Upon completion of the consent, interviews took place by telephone due to the COVID-19 virus. To improve the

documentation of all interview data, the interview was recorded using the Rev.com digital recorder and followed a crafted interview guide approved by IRB.

Participants were provided an explanation of the process and understood the recording process as part of the informed consent process and received an explanation of the safety and confidentiality of the data process in how records would be stored and kept. The audio recordings allowed for notetaking to collect perceptions, audio observations, and voice reflections captured while the interview was ongoing so that I could focus on the interview itself.

Questions were asked one at a time, allowing time for participants to answer while avoiding any biased language or leading questions. The length of the interviews varied from 45 to 90 minutes in length. The recordings were reviewed for clarity and preciseness. The transcripts were recorded verbatim, except for any unnecessary and unneeded repeated words.

An emphasis in data collection was placed on the accuracy in obtaining the data precisely to ensure data integrity during the follow-up procedures and interviews. At the end of the interviews, participants received a 15-minute phone call to clarify any unresolved questions. Participants received explanation of how, why, and when all the hard copies of transcription notes would be destroyed five years from the dissertation completion date.

At the completion of the interviews, each recording was reviewed for clarity and completeness before they it was transcribed. The Rev.com digital phone application was used to record the interviews, and then manually transcribed. Only numbers were used in

interviews for participant identification. The company provided a nondisclosure agreement for transcription services to protect the confidentiality of the recordings and delete the interview contents upon transcribing the interview data. This data collection process was complete upon formally reaching saturation and data collection stopped. Saturation was achieved with participant number 11. One more participant was interviewed to confirm saturation where no new information was obtained. This created a total sample size of 12.

Data Analysis

Coding

The data were sorted, coded, and analyzed, to identify themes. This was done by hand and by using Microsoft Word and Excel. All the transcribed data were imported into Microsoft Word, to capture data and manage efficient coding. Using a reflexive journal combined with Word and Excel assisted in obtaining and managing data efficiently. Excel was useful in organizing large chunks of coded and collected data derived from the interviews, documents, and resources utilized. After reading transcripts of the data to become familiar with them, hand coding was done to engage in chunking larger phrases and sets to look for categories of information, next these were broken into shorter themes. Codes became clear as the process continued with the same categories and words, with similar meanings, showing up with increased frequency (Yin, 2014). Emerging themes evolved from the interviewees' perceptions and experiences that come from the participants interviews.

Forty-seven codes were developed from reading, reviewing, and familiarization by taking note of items associated with the data analysis's potential interest (an alphabetized list see Appendix Y and Z also Table 3 aligned according to codes, themes, and categories). Studying themes produced a map of provision themes that emerged as categories, and relationships between them began to emerge as a thematic map. The transcribed data were coded relating to the research questions, thematic analysis, and the matrix with all 12 participants' interview responses. I used a manual-hard copy process allowing for a different type of interaction with the data analysis. The format provided a conceptual viewpoint for conducting data. Data coding began while still collecting data items, where collecting parts of the data were reviewed with an analytical eye to identify possible patterns (Bringer et. al., 2006).

Table 3

Preliminary Codes for Data Analysis

Preliminary Codes	Themes	Categories
Barriers to NVP Best practices Best practices with CAM CAM care Challenges for mothers Education of NVP Education on NVP and CAM Experiences of NVP Family reactions to NVP Feeling miserable Financial challenges with NVP Friends reaction to NVP Health status Herbs and therapy Hospital stays Impact of NVP Information from friends Integrating CAM remedies Internet/Google Knowledge about NVP Knowledge of CAM Knowledge of NVP Management Medicine for NVP Mild NVP Moderate NVP Nausea NVP	(1)Experience of NVP with pregnancy: Signs and Symbols (2)Impact of NVP with pregnancy: Moderate and Severe Problems with NVP (3) Family Friends Reactions to NVP: Supportive (4) Knowledge/Education of NVP	Nausea Vomiting Loss of Weight Severe Most of the time Moderate could not keep food down Great Concern about my Nausea Helpful with my needs to get better Provided medicine Self-Education Information obtained from Internet/Google Little to no knowledge Information from Friends/Family
Pain management Pregnancy with NVP Pregnant mothers Problems with NVP Recovery from NVP Severe NVP Signs of NVP Support for NVP Symptoms of NVP	(5) Barriers experiences addressing NVP	Challenges of having NVP Financial Challenges Paying for Medication Going to the Hospital
Treatment Treatments Understand NVP and CAM	(6) Management/Treatment: Recovery from NVP	Used Herbs Used Vitamins Used Therapies
Understand NVP and CAM Use of CAM	(7) Knowledge of CAM: Understanding the use of CAM	Acupuncture Herbs Remedies Vitamin B 6

Vomiting Weight loss	(8) Knowledge of CAM: Health Status Changed	CAM remedies worked Medication

Evidence of Trustworthiness

The integrity, reliability, and interpretations of the findings depended on laying the foundation on trustworthiness. Taking a constructivist viewpoint towards trustworthiness, is the responsibility of the researcher to protect the data that is ethically collected. One most crucial aspect of qualitative research was accomplished by establishing rigor during the study (Guest, 2012). There are various pathways for formulating trust to replicate the findings of a research study with a distinct research sample (Guest, 2012). Such as spending an adequate length of time on the telephone and obtaining persistent observations of the telephone interview were most relevant and critical in establishing honesty. The time spent with the research participants was to produce a frank, comprehensive, open-ended conversation building strong relationships leading to accurate data (Patton, 2015). Lincoln and Guba's life's work broached same issues in four constructs equal to the positivists investigators guidelines (parameters) as follows: credibility (in preference of internal validity); transferability (in preference to external validity/generalizability); dependability (in preference to reliability); and confirmability (in preference to objectivity) (Guest, 2012; Lincoln & Guba, 1985).

Credibility

Internal validity or credibility provided results that are derived from the data and are legitimately based on actual information. As a result, a set of guidelines were given to the interviewees to check their transcripts and accuracy of themes, and case summaries to improve the credibility of the interview data and research (Rubin & Rubin, 2013). The rigor in qualitative studies was utilized as a guide (Patton, 2015). Credibility was thought

of as an essential part of the critical research design (Creswell, 2018). To demonstrate credibility for this study the following provision was provided:

1. I established a relationship of trust with the participants from the recruitment and the interview process by spending adequate time with each participant to gain a full understanding of their perceptions and view (Creswell, 2017).
2. I continued to recruit and engaged participants for this study until saturation was achieved and no new information were obtained from the participants (Murphy, 2013). Triangulation of the data was achieved by reviewing and examining the data several times to confirm that the data was completed and to ensure there was no overlapping area when determining patterns and themes (Creswell, 2017). Triangulation implies more than just one researcher to view the data multiple times. Triangulation, a specific and deliberate strategic process, necessitates precise planning. It could include various reviewers who examine the raw data of surveys, demographics, and transcripts to compare and confirm data and minimize bias. Triangulation involved identifying themes for the specific data source and then arranging them into similar categories. Triangulation compares qualitative data. Investigator triangulation also compares and minimizes biases found in the data collection (Adams, 2015; O'Cathain, 2010).

3. Conducting member checking. I conducted member checking of the transcribed data by sending the transcripts back to the participants to check the accuracy of the data. All but one of the participants suggested minor corrections to the transcribed interview data.

Transferability

To maximize the transferability of the participants, an exceptionally homogenous sample of women who experienced NVP were chosen (Miles et. al., 2014). The women's ages range from 19-30, and a purposeful sampling strategy was used to increase diversity. One way to exaggerate transferability for the participants were to seek out a varied population of women who have experienced NVP during pregnancy, include multiple perceptions of CAM modalities, and targeted broadly across the reproductive age group. The goal of qualitative research was to make sense of large amounts of data and to determine what the data reveals (Patton, 2015).

Transferability is a way that qualitative studies can transfer and maintain a more robust text. According to, Lincoln and Guba (1985) asking an essential question to understand the transferability and external validity of the concept is essential. Incorporating a thick and rich description of the participant's responses of NVP provided substantial data that makes sense of the social world (Appendix E: Demographics, Appendix F: Participants Qualifying Criteria Survey, Appendices L-W: Transcripts).

Dependability

Dependability is necessary to obtain the stability of all the data utilized and documented for the research process. It is equally important to understand that qualitative

research studies were viewed as dependable and consistent (Miles et. al., 2014). Ensuring the dependability of a study entails that a researcher has strategized how that person plans to collect data and aligns approaches with the research questions.

The following measures demonstrated trust in the study findings. An audit trail generated by a research log will outline documentation of events with participants, screening dates, consent agreement, the interview date, the length of the interview recording, and an interpretation of their reactions (Appendix AA) . Triangulation also means the use of combining a variety of methodological used to question methods and not taken for granted. Triangulation it is not about combining one method for collecting data from an interview, it is used for comparing surveys, coding, and to analyze data. In the end, triangulation should produce knowledge at different levels to promote quality in research (Flick, 2018). The appropriate codes were obtained from the interviews, and fragments of codes, ideas, and concepts brought together into data sets which can then be interpreted (Yin, 2018). The plan ensured stringent guidelines and standards to attain valuable data (Patton; 2015; Stake, 2006; Table 3).

Confirmability

Confirmability compliments objectivity, especially when a researcher is considered unbiased and reflects the need to match data. As a result, the data identified by a researcher demonstrates the integrity of data and presents transparent and credible information. Reflexivity interprets and calls on an individual to think in context journal entries, and transcription notes (Givens, 2008). The data and the researcher's findings reflected in the integrity of the data were transparent and credible. Reflexivity was calling

to, in part, a deeper introspection to keep an account of the entire process, journal entries, which included transcription notes to ensure ethical considerations and confidentiality (Patton, 2015). Qualitative researchers do not always seek objectivity. The information must still be confirmed. To delve deeper into confirmability is to explore the biases, prejudice of the data to the fullest extent, possibly implementing triangulation strategies (Patton; 2015; Stake, 2006). In the current study, confirmability was maintained through audit trails and reflexive journaling. The methodological measures used in the data collection and analysis processes of credibility, transferability, dependability, and confirmability described above allowed the integrity of the results to be scrutinized from other in qualitative research (Creswell, 2017).

Results

The results of this study are summarized in eight categories, primary themes, and secondary themes that emerged from the data analysis (Table 4). The themes that emerged from this data analyses were listed in chronological order on an Excel data spread sheet where I reviewed the themes to determine connections between the emerging themes or primary themes and subthemes or secondary themes. The themes were arranged in analytical and theoretical order to provide a context for the final themes (Smith & Osborn, 2007). Some of the themes clustered together, while other themes that emerged as subordinate concepts (Smith & Osborn, 2007). After performing the data analysis of the transcripts, revisions were made in a table format to develop the final themes for discussion.

Table 4

Themes Related to Research Questions

Research Questions	Themes	Primary codes	Secondary codes
RQ 1 What are the experiences of coping with NVP and its symptoms among a sample of women between 19-30 years of age, who were pregnant for the first time?	Experiences of NVP with Pregnancy	Signs/Symptoms	Nausea Loss of Weight Vomiting
	Impact of NVP with Pregnancy	Moderate and Severe Problems with NVP	Severe- nausea during the day Moderate- could not keep food down Moderate-felt miserable most of the time
	Knowledge/Education of NVP	Self-Education	Information from internet/google Little to no knowledge about NVP Information from family/friends
RQ 2 What are the perceived benefits and perceived barriers of using a CAM modality among women who have experienced NVP for a sample of women between 19-30 years of age.	Family/Friends Reactions to NVP	Supportive	Great concern about my nausea Helpful with my needs to get better Provided medicine
	Barriers experiences addressing NVP	Challenges of having NVP	Financial challenges Paying for medication Going to the hospital
	CAM Influences on Care	Health Status Change	CAM Remedies Worked Medication and Acupuncture Worked
RQ3 What factors influenced the decision-making process of deciding how to treat NVP symptoms, specifically when related to using a CAM modality, or not among a sample of women between 19-30	Management/Treatment of NVP	Recovery from NVP	Used certain herbs Used vitamins Used therapy
	Knowledge of CAM	Understanding the use of CAM	Acupuncture Herb Remedies Vitamin B6

years of age, who were pregnant for the first time?

The data analyzed generated eight themes with a total of twenty-four primary and secondary codes critical to the research questions. The themes that emerged from the thematic categories were then compared to improving the understanding and perceptions of experiences related to women who have experienced NVP ages 19 to 30. A secondary purpose of this study was to gain insight into perceptions for women and the potential use of CAM modalities to treat NVP symptoms, and how the decision-making process occurred for them in making a decision, to, or not to pursue its use.

Research Question 1

RQ1 asked what are the experiences of coping with NVP and its symptoms among a sample of women between 25-30 years of age, who were pregnant for the first time? The data were collected from the interview questions from the interview protocol answered this research question. The participants were able to provide their perceptions and experiences related to the signs and symptoms while being pregnant for the first time.

Category and Theme 1: Experiences of NVP with Pregnancy: Signs/Symptoms

All participants noted various signs of NVP during their pregnancy. They described these signs and symptoms as "felt sick all the time," "did not like the smell of food," "just the smell of food made me sick," "I lost weight due to the lack of eating," "I had to go to the hospital," "I lost my taste for food," "I had to take medication," and "I had an upset stomach." Their experiences captured the intensity of this experience.

Participant 1 mentioned,

Soon after finding out I was pregnant week 5 or 6. I became incredibly nauseous. I experienced major food aversions just opening the refrigerator and, smelling

food went on for 20 weeks….Miserable. All-consuming from a.m. to p.m. Every minute of every day I found myself trying not to throw up. It was physically exhausting. After 12 weeks I thought I would feel better. My NVP lasted for 20 long weeks, it was emotionally exhausting with no end in sight. It was emotionally draining. I was 28 when I was first pregnant, and there were expectations to eat healthy when I became pregnant. I was not in control during the pregnancy process and, I had no idea that it could be that bad. My expectations were not in alignment with the pregnancy.

Participant 2 indicated,

It was not a fun experience. Pretty miserable to describe it. I am a thin person to begin with. hard to maintain weight living with nausea and vomiting. Hard not to make it happen all the time. The first pregnancy was hard trying to navigate it. I Googled to find to help and to live with the process of NVP. My OBGYN tried to offer information as well. Tried to push through did not share with OBGYN how I was really feeling. First pregnancy – I did not want to share with doctors the truth about my pregnancy. Fear of being given/prescribed a Pharmaceutical Drug. I would not have taken it. I did not want to take a Pharmaceutical Drug. I have White Coat Syndrome, my Blood Pressure spikes, and I gets nervous.

Participant 6 shared,

All my pregnancies were quite different. It cannot be explained with one answer. I had three births. They were only two live births. I assumed it was part of pregnancy. I assumed it was part of life. The only pregnancy that did not last I

was medicated for it, and I lost the baby. I do not remember the name of the medication. It was an anti-nausea medicine. I have experienced all three severities with all three pregnancies. Mild, Moderate and severe with all three pregnancies". At some point during the pregnancy, I did not stop throwing up. I threw up all the time. I tried going on trips but was concerned about having to stop several times before I arrived at the place to which we wanted to go.

Participant 8 noted, "The feeling of nausea would just come on very suddenly and had the feeling that I could throw up and never did and, it lasted 15 minutes at the most and would go away when I could eat something."

Participant 9 recalled,

This was my second pregnancy, and I knew what to expect by obtaining IV fluids about 6 weeks into the pregnancy. I was trying to stay ahead of the curve and switched OBGYN clinics. I was given Zofran every two weeks. The first pregnancy was her tell-tale sign. I was not a regular morning sickness. I changed physicians from the original office staff. I was given a prescription of Unisome and B6. People were not taking me seriously. After the first trip to the EMR, they did not refill my prescription. I was admitted to Henry Ford Practice and the OB in that off was fantastic". "I was diagnosed with first pregnancy Hyperemis Gravardium (HG). It was considered mild, and I was not requiring a pick line. It could have been a lot worse.

Participated 10 recalled,

I found out I was pregnant after she I missed my period. I felt healthy and did not experience any problems. One week after I missed my period I began to vomit. I experienced NVP 1 week later with both of her kids. I do not remember the frequency of vomiting or the constant state of the nausea.

Participant 11 said,

Just unpleasant. Just difficult. I needed to have a full stomach to drink water. I felt this unpleasant feeling from the moment that I woke up. Generally, did not feel good even doing the day-to-day activities which would solicit strong smells. The unpleasant feelings lasted for two months. I would say that it lasted for two months.

Participant 12 disclosed,

I felt miserable and had to take medications due to vomiting and nausea most of the time during pregnancy. The first time I was so severe I had to seek help from the OBGYN and was prescribed medicine. I cannot remember the name of the medication and it was given to me on a as needed basis. Eating was difficult and keeping food down from constant vomiting.

Nausea. All 12 participants disclosed that they experienced nausea most of the time during their pregnancy. Participant 1 voiced, “I became incredibly nauseous. Miserable.” Participant 2 commented, “It was not a fun experience. Pretty miserable to describe. I am a thin person to begin with. Hard to maintain weight living with nausea and vomiting. I felt nauseous most of the time during my pregnancy.” Participant 3 explained, “Well I dealt with nausea with a prior pregnancy and with the third child more

severe. A lot of nausea throughout the day. Participant 4 claimed, "Nausea was slow still in first trimester. I took a child-birthing class about 12-13 weeks and was still experiencing nausea. It was awful." Participant 5 commented,

> I would smell something such as cut grass and threw up in the back yard, and I would experience a gag reflex and threw up in her hand. I felt hot and experienced waves of nausea that came over me a lot.

Participant 6 pointed out, "I was nauseous, and I was medicated for it. I lost the baby. I do not remember the name of the medication. It was an anti-nausea medicine." Participant 7 explained "It was not fun, it started about 8 weeks, that I had the off feelings. I was nauseous, and I would puke more in the evening not in the traditional sense of mornings with morning sickness." Participant 8 described nausea,

> I felt a wave of nausea and I was about 7 weeks along in my pregnancy. The feeling of nausea would just come on very suddenly and had the feeling that I could throw up and never did and, it lasted 15 minutes at the most and would go away when I could eat something.

Participant 9 recalled, "I automatically felt a little nauseous, and I tried not to move". Participants 10 remarked, "Feels like NVP took my life into its own hands, I was completely miserable." Participant 11 reflected on the subject, "I experienced a general lingering nausea and upset stomach typically in the morning." Participant 12 addressed her perceptions, "I had extreme nausea and would say it lasted for 3 or 4 months."

Vomiting. Eight of the 12 participant noted that they experienced vomiting during most part of their pregnancy. Though vomiting for some were minor to severe and some

of the pregnant women had to go to the hospital due to severe vomiting. Four of 12 participants of the pregnant women pointed out that they had to take medication to reduce their vomiting. The medications were either prescribed by the doctor. Participant One stressed the importance of purchasing the following over the counter homeopathic remedies (a) Sepia 30/12 homeopathic remedies to alleviate nausea and vomiting especially at the sight and smell of food, (b) Tabacum was used to reduce incessant nausea that escalates with certain smells like tobacco smoke and vomiting, and (c) Nux Vomica helps with irritability of the entire digestive system. Participant 5 purchased Zofran, otherwise known as Onadansetron and it requires a Medical Doctors request for prescription. Participant 7 purchased Unisome, and Participant 10 purchased Bonjesta, and Reglan which are over the counter medications.

Participant 1 noted, “Once I began to vomit, I went right down the Vomit Rabbit hole. Some days I would keep vomiting and could not stop.” Participant 2 commented on her experience, “I felt sick for 6 weeks or so. I experienced 8-14 weeks vomiting every day.” “Participants 3 disclosed, “Ginger moderately helped through third trimester vomiting was 99. 5 over. “

Participant 5 provided the following information, “If people feel they are being made fun of, being informed, knowing the benefit, having a class, to learn all the things I could do to minimize nausea and vomiting.” Participant 8, recalled “My friends perceived that it was important to get what I needed quickly. Throughout my pregnancy I had to alleviate the vomiting, and everyone wanted to help me get what I needed.”

Participants 10 referenced, “One week after I missed my period I began to vomit. I experienced NVP 1 week later with both of my kids. I do not remember the frequency of vomiting or the constant state of the nausea.” Participant 11 explained, “I experienced a general lingering nausea and upset stomach typically in the morning, and I experienced the urge to vomit.” Participant 12 remembered “In my first pregnancy I had nausea and vomiting a very extreme case and would say it lasted for 3 or 4 months”.

Loss of Weight. Five of the 12 participants disclosed that they lost weight during their pregnancy. The weight lost for some ranged from a small amount to a large amount due to not being able to eat and keep the required amount of food down for a pregnant woman. One of the women had to take medication to help manage their food intake in order not to lose too much weigh during their pregnancy.

Participant 2 -remarked, “I am a thin person to begin with, hard to maintain weight living with nausea and vomiting. With the first child I lost weight. “Participant 3 indicated, “complete loss of appetite, mostly in the morning, and it was difficult to deal with.” Participant 4 commented, “I lost weight during the pregnancy.” Participant 5 cited, “I also experienced rapid weight loss in the beginning of pregnancy with her son. I did not gain weight until 5 months into the pregnancy.”

Participant 10 explained,

> I definitely experienced severe NVP, I lost weight in the beginning and never hospitalized. Theoretically I would still throw up. Every time I stopped taking the meds I would throw up. I do not know if it would ever stop. I tried going off medicine as far as six to seven months into the pregnancy.

Category and Theme 2: Impact of NVP on Pregnancy: Moderate and Severe Problems With NVP

Ten of the 12 the participants noted that they had moderate to severe impact of NVP during their pregnancy. Five women indicated that they were hospitalized during pregnancy. They described as severe, mild, and moderate. While two of the participants noted that they had mild symptoms with respect to NVP on pregnancy. The participants offered noticeably short answers to this question. I had to probe most of them several times for them to provide some details regarding the impact of NVP on their pregnancy. These symptoms impacted their everyday life with working and just making it through their daily lives. Some of their expressions were "severe on my gallbladder," "sick almost every day," "severe and I lost weight," "moderate and I had to go to the hospital," "I could not keep food down," "I felt miserable most of the time," "severe and I missed work a lot," and "it just had a mild impact on my everyday life."

Participant 1 noted, "I felt nausea most of the time during my pregnancy." Participant 2 mentioned, "I was sick most days during my pregnancy I had moderate and severe problems with NVP and felt sick every day during my first birth. In addition, I had to miss work a lot." Participant 4 pointed out, "I had moderate to severe problems and felt sick all of the time, and I had a problem keeping food down most of the day."

Participant 6 remarked, "The impact was severe, I lost weight during my pregnancy." Participant 7 noted, "I had severe NVP and it impacted my everyday life." Participant 9 commented, "My impact was severe most of the time. I had moderate and sometimes severe issues with NVP and had to go to the hospital for treatment."

Participate 10 disclosed, “I had to go to the hospital a lot during the first part of my pregnancy. Also, I had moderate and sometimes severe issues with NVP and had to go to the hospital for treatment.”

Severe-Most of the Time. Nine of the 12 participants recalled that they had severe impact from NVP most of the time during their pregnancy. Participant 1 revealed “I would say severe. Since having this experience, I felt as if I could not function.” Participant 3 said, “I dealt with nausea with a prior pregnancy with the third child more severe.” Participant 4 stressed, “For the first pregnancy it was severe.”

Participant 5 explained, “With my son it was severe, with my daughter more moderate.” Participant 6 described, “I experienced mild, moderate and severe with all three pregnancies.” Participant 7 disclosed, “Moderate to severe once admitted to the hospital and was put on medicine. It was pretty severe until I was put on a specific regime of medicine my experience was pretty severe.”

Participant 9 reflected about what she read,

> All I knew that Kate Middleton (the actress) experienced a severe case of NVP, and it happens to a high percentage of women. Once, I heard the condition I had at the hospital, I knew what Kate Middleton was diagnosed with. I had to address it.

Participant 10, pointed out, “I woke up in the morning throwing up and it was more severe with the second child, definitely severe.” Participant 12, shared, “The first time I was so severe I had to seek help from the OBGYN and was prescribed medicine.”

Moderate-Could not Keep Food Down. Seven of the 12 participants noted that they had severe impact from NVP, and they could not keep food down during most of their pregnancy.

Participant 1 recalled,

> I became incredibly nauseous. I experienced major food aversions just opening the refrigerator and, smelling food went on for 20 weeks. When I cooked the food, I could not keep it down. I went to the hot food bar of a local store often. I found that I could keep the food down after I ate.

Participant 2 reflected, "I was nausea, and sick then I would be hungry with the 2nd child. It was hard being able to keep food down and eat. I would eat, feel nausea and food was not stopping the feeling of nausea/"

Participant 4 commented, "It was awful. I had to have water and could not eat anything." Participant 5 disclosed,

> I Could not drink water or would throw up. I just could not cope with even the smells, affected me at work, and at school. As soon as I ate, I could feel things coming back up. Soon as I finished eating my food, I could feel it coming back up. Soon as I finished eating my food, I could feel it coming back up.

Participant 6 realized, "I could not keep down water and ended up going to the hospital and was diagnosed with hyperemeisis gravardium HG and ended up in the hospital for a couple of days."

Participant 10 described,

> I started to rethink about taking the Philadelphia trip and was able to sneak food and ate in the lobby of the hotel. This made a significant difference. I did eventually stop throwing up after 5 months and tried to wean myself off the medication.

Participant 12 commented, "Eating was difficult and keeping food down from constant vomiting."

Category and Theme 3: Family/Friends Reactions to NVP: Supportive

All of the 12 participants noted that they received support with their NVP from family and friends. The participants described this support with such words as "concern with my needs," "very supportive," "helpful to me in my time of needs, tried to help me, provided medicine for me, very supportive, surprised about my experiences, and gave me remedies."

Participant 1 elaborated, "All supportive, kind, and attempted to be helpful and felt very loved doing this time. No one in my close friend, extended family circle did not feel or have this experience." Participant 2 said,

> Perceptions of family: Family supports that kind of stuff. But, not all of my extended family. My family might not tell me to do something, however, my friends never say anything against the use of CAM. My friends were supportive. There was never a mean moment, but a caring moment.

Participant 3 recalled, "Family, they all treated me well. This is the chance you have to take. I was a little bit skeptical by calling off two events or showing up late in the day to one event. I could not avoid it. Individuals at work were forgiving." Participant 4

described, “Perceptions of those around me: People around me thought I was weird, and family was supportive. But hubby recommended to use medicine, using alternative medicine, the entire time during the first pregnancy for the entire 11 weeks.”

Participant 5 elaborated,

> It depends on what group of friends. The Birthing community was very supportive. There were others that think some of the things I did were ridiculous. I have friends that think natural medicine was insane. Dad was supportive, and mom was neutral. My sis said there were a lot of things that she felt were silly. My sister said that dinking v8 was helpful.

Participant 6 indicated, “The same.” Participant 7 commented “They don’t have any concerns.” Participant 8 remarked “My friends perceived that it was important to get what I needed quickly. Throughout my pregnancy I had to alleviate the vomiting and they everyone wanted to help me get help me get what was needed.”

Participant 9 pointed out,

> My mom is incredibly supportive, and my dad is becoming more appreciative of CAM. My hubby is not against it, but it is not his first choice. My siblings utilized it a bit. I was the only child who was more open to acupuncture and Reiki.

Participant 10 stated,

> I think that I was lost and was influenced by what was available at my fingertips. All very self-driven. Two perceptions I can think of that influenced me: (1) Mom and (2) sister in-law My mom does not necessarily speak out, but she is open minded. But my sister-in-law was more interested in CAM, had positive

> perceptions and said tried essential oil. Sister in-law purchased essential oils and packed it up and gave it to her. The people in my circle were only supportive and no one gave me any negativity about it.

Participant 11 described, “I would say friends who were previously pregnant had remedies they used, everyone tried to recommend what was safe.” Participant 12 explained, “Those were the most suggestions I would have perceived: teas, chewing, gum, nobody said to go to the doctor. Most of the recommendations she received were from a doctor. Overall perception 80 % google and 20% family.”

Great Concern About my Nausea. Four of the 12 participants noted that a family or a friend was greatly concern about them having symptoms of being nausea during their pregnancy. Participant 1 said, “But I do not take pharmaceutical medicine and was concerned because I was so sick.” Participant 2 pointed out, “I when I worked at a Bridal shop, I was more concerned about my condition to the public because of the kind of work and exposure I was doing on top of not feeling well.” Participant 5 remarked,

> When I was a floor manager, I was concerned because I spent a lot of time in the bathroom feeling nauseous and was throwing up. I did not take any more clients because I was concerned that I was losing a pool of blood daily. I was concerned if at a client’s house, or at a delivery in the labor and delivery room I would not want the memory of the client associated with a client’s delivery and them seeing blood from a doula on the floor.

Participant 10 disclosed,

> Every time I tried stop taking the medicine, I would throw up again. Leading up to the trip was I concerned if I could take a trip and sucking on candies that would be tucked away in my carry-on luggage. I sucked on candies up to when I was four or five months pregnant.

Helpful With my Needs to get Better. All of the 12 participants noted that friends and family members were very supportive and helpful with their needs in order to get better during their pregnancy. Participant 1 found,

> When I cooked the food, I could not keep it down. I went to the hot food bar of a local store often. I found that I could keep the food down after I ate. I felt better, again, I experienced a heightened sense of smell. My husband's aunt helped me the most. I introduced the cold popsicles. I would slowly feel better, began to feel hydrated and fill the stomach to get enough sugar and calories. Acupuncture, aromatherapy, mint oil, raspberry leaf tea, garlic root, turmeric, B6, homeopathic, meditation, yoga.

Participant 2 reflected, "With my first pregnancy I felt sick regularly, but once I got food in my body, I felt much better. I felt better when wearing C-Bands." Participant 3 remarked, "I used Acupressure1st, 2nd 3rd trimester, Mint Oil 1st, 2nd, 3rd trimester, Raspberry leaf tea 1st, 3rd, Ginger 1st, 2nd, Multi-vitamin B6 1st, 2nd 3rd trimester, Relaxation 1st, 2nd, 3rd trimester." Participant 4 stressed, "Chiropractic, 1st 2nd and 3rd trimester, Ginger, 1st 2nd trimester, Prayer 1st, 2nd, Psychotherapy 1st 2nd, Hypnosis (hypnobirthing, calm birthing) 1st 2nd and 3rd trimester, Self- hypnosis 1st 2nd 3rd, Meditation 1st 2nd 3rd, Yoga 1st 2nd 3rd." Participant 5 explained, "V8 juice, Garlic

Soup, ginger Tea, vitamin B 6, tried medications: Zofran, relaxation techniques, Reiki, yoga, acupressure, aromatherapy, chiropractor who specialized in treating women using the webster technique who are pregnant using spinning babies' optimal fetal position." Participant 6 recalled,

> I did not do any interventions at all except for the 2nd pregnancy using medicine. I cannot remember the anti-nausea name of the product. I was taking B12 which was a normal vitamin given to all pregnant women. Other than that, I took nothing else.

Participant 7 said,

> I could not keep anything down and then they moved me to labor and delivery and gave her medications and within hours "I felt so much better, it was remarkable and was there in the hospital for 24 hours and I received a rotation of medicine. Once I was released from the hospital, I felt so much better. I tried various CAM remedies with ginger, teas, eating plain foods, flavoring water with different things. Lemon candies and ginger stuff. They would help for a period. But, not longstanding/regularly. I used acupuncture regularly during the first trimester and that helped. Medicine, such as B6, Unisome and a suppository was the most helpful. I don't remember the name of the suppository it was a year ago.

Participant 8 described, "Deep breathing, eating a light snack bread and crackers and one day I went for a walk, and thought a distraction might have helped. I had a sense that distraction would help."

Participant 9 remarked, "I was getting acupuncture for migraine headaches treatments. Acupuncture 2nd trimester, Chamomile tea, 2nd, 3rd Trimester, Reiki 1 – 1st Trimester."

Participant 10 pointed out,

> B6 Bonjesta and Reglan helped in a significant way – being on the two medications to help me from nonfunctioning to functioning. Acupuncture and Essential Oils Aroma therapy, Raspberry Leaf Tea Multi-Vitamin (B6), and Yoga, Acupuncture 1st trimester Aromatherapy 1st trimester, Raspberry Leaf 1st trimester, Multi vitamin B 6 1st Trimester, Yoga first trimester.

Participant 11 described,

> So, definitely I would have a snack on my night- stand, Velveeta biscuit, snack crackers, ginger team ginger chews, would like to suck on things bread and carbohydrates lined my stomach. Peppermint 1st trimester, Multi vitamin B 6 - 1s, 2nd 3rd trimester.

Participant 12 disclosed,

> Multiple types of teas on the list: Chamomile, green, peppermint and raspberry. I tried Preggy Pops (suckers) did not recall them helpful. Chewing gum (minty) It helped temporarily definitely not for extended periods of time. Temporarily not for extended periods of time. Yes, Chiropractic/Osteopathy, 1st trimester, Chamomile Tea, 1st trimester, Green tea, 1st trimester, peppermint tea 1st trimester, Raspberry Leaf/Tablet tea, 1st trimester, Evening Primrose Oil, 3rd trimester, Relaxation Therapy 2nd trimester, I think the teas were the most helpful.

Provided Medicine. Ten of the 12 participants noted that their family members and friends provided medicine to help them with their sickness during their pregnancy. Participant 1 said,

> The Aunt who shared the popsicles. Saved her life during the NVP period. Acupuncture 2nd 3rd trimester, Aromatherapy 2nd, 3rd trimester, Mint Oil 1st trimester 2nd third trimester Grapefruit 1st, 2nd, 3rd trimester, Raspberry leaf 1st trimester. Garlic root 1st trimester, Tumeric 1st trimester, Multi-vitamin B6 2nd Trimester, Homeopathic remedies 2nd, 3rd trimester, Meditation 1st, trimester, Yoga 1st trimester, Homeopathic remedies: Sepia 30/12 Sepia helps with nausea especially at the sight and smell of food, Tabacum reduced incessant nausea that escalates with certain smells like tobacco smoke and vomiting. Nux Vomica helps with irritability of the entire digestive system. These three variations that were used for Nausea and Vomiting during Pregnancy. Monthly prenatal massage in the 2nd trimester and 3rd trimester, Craniosacral therapy throughout the whole pregnancy.

Participant 2 disclosed,

> I prefer using an alternative method. Before jumping to conclusion. Perceptions of family: Family supports that kind of stuff – Not all of her extended family. My family might not tell me to do something, however, my friends never say anything against the use of CAM. Chiropractic 2nd 3rd trimester, Raspberry leaf tea first trimester, Ginger 1st, 2nd trimester. Prayer 1st, 2nd, 3rd trimester, Homeopathic

remedies 2nd third trimester, Yoga 3rd trimester New: Rescue Remedy, Perceptions of family.

Participant 3 commented, "My mom is definitely offered CAM to me in the form of anything that consisted of ginger. She also drank Pepsi. B6, ginger, Altoids, peppermint." Participant 4 described,

> Perceptions of those around me: People around her thought I was weird, and family was supportive. But hubby recommended to use medicine. Using alternative medicine, the entire time during the first pregnancy for the entire 11 weeks. Chiropractic, 1st 2nd and 3rd trimester, Ginger, 1st 2nd trimester, Prayer 1st, 2nd, Psychotherapy 1st 2nd, Hypnosis (hypnobirthing, calm birthing) 1st 2nd and 3rd trimester, Self -hypnosis 1st 2nd 3rd, Meditation 1st 2nd 3rd, Yoga 1st 2nd 3rd.

Participant 5 remarked,

> Dad was supportive, and mom was neutral. My sis said there were a lot of things that she felt were silly. My sister said that dinking v8 was helpful. Acupressure 1st trimester 2nd 3rd, Aromatherapy 1st trimester 2nd 3rd, Chiropractic/ 1st trimester 2nd and 3rd, Chamomile Tea 1st, 2nd third, Peppermint tea 1st 2nd 3rd, Raspberry 1st 2nd 3rd, Rosehip 1st 2nd 3rd, Ginger 1st 2nd 3rd, Evening Primose Oil 1st 2nd 3rd, Multi Vitamins B 6, 1st 2nd 3rd, Music Therapy 1st, 2nd, 3rd, Relaxation 1st, 2nd, 3rd, Imagery 1st 2nd 3rd, Homeopathic 1st, 2nd, 3rd,, Reiki Therapeutic touch 1st, 2nd 3rd trimester, Reflexology 1st 2nd 3rd trimester, Yoga 1st and 3rd V 8 Juice.

Participant 8 pointed out, “My friends perceived that it was important to get what I needed quickly. Deep breathing, Relaxation techniques 1st trimester.” Participant 9 indicated, “My mom is very supportive, and my dad is becoming more appreciative of CAM, Acupuncture 2nd trimester, Chamomile tea, 2ND, 3RD Trimester, Reiki 1 – 1st Trimester.” Participant 10 explained,

> That (1) Mom and (2) sister in-law My mom does not necessarily speak out, but she is open minded. But my sister-in-law was more interested in CAM, had positive perceptions and said tried essential oil. Sister in-law purchased essential oils and packed it up and gave it to her. The people in my circle were only supportive and no one gave me any negativity about it Acupuncture 1st trimester, Aromatherapy 1st trimester, Raspberry Leaf 1st trimester, Multi vitamin B 6 1st Trimester, Yoga first trimester.

Participant 11 remarked, “I would say friends who were previously pregnant had remedies they used, everyone tried to recommend what was safe. Peppermint tea, multi-vitamin B6, Yoga.” Participant 12 stated,

> I would have perceived – teas, chewing, gum, nobody said to go to the doctor. Overall perception 80 % google and 20% family. Chiropractic/Osteopathy, 1st trimester, Chamomile Tea, 1st trimester Green tea, 1st trimester, peppermint tea 1st trimester, Raspberry Leaf/Tablet tea, 1st trimester, Evening Primrose Oil, 3rd trimester, Relaxation Therapy 2nd trimester, I think the teas were the most helpful.

Category and Theme 4: Knowledge/Education of NVP

Self-Education. All 12 of the participants noted that they had to educate themselves about NVP on ways to treat it. Twelve of the participants noted that they had not any knowledge about NVP and had to research locating information about NVP through google and the internet. They described their education and knowledge in terms such as little knowledge, talked to a friend, talk to a family member about NVP, knew nothing about NVP, education from the doctor, attended a class on NVP, and researched the internet, and Google throughout the full term. Participant 1 disclosed, "I knew almost nothing, unless you saw it in a movie, and then the movie just keeps going on it does not educate or answer questions. I just did not know anything about exposure to NVP." Participant 2 pointed out,

> Google became my best friend. I did not use a lot of pregnancy apps. Although, I have a lot of apps now. I looked for reputable web sources. She said I asked people about their experience they have had which is trustworthy, Internet.

Participant 3 shared,

> I definitely did not get a large list like what you shared. My list was limited. The knowledge originally came from my mom. I heard from my doctors to start taking B6. More exact Unisom, and to take it at bedtime. It is an over-the-counter sleep aid to take at bedtime. More exact Unisom, and to take it at bedtime. It is an over-the-counter sleep aid to take at bedtime.

Participant 4 described,

> I educated myself from what I learned attending the education classes. I found the classes through the hospitals and had a really good Doctor. It was a university

> town and populated with young families and students. My husband and I did not know what we going to do. We began to research, and they had no idea what they were going to do. I took a tour of the hospital. I did know I did not want an epidural. Lots of relatives, mom, family, sister gave birth at home.

Participant 5 remarked, "I just talked to people with my second child/daughter I did a lot more research of remedies and what vitamins to take and what type of alternative medicine that was available." Participant 6 pointed out, "My doctors educated me on the topic of NVP." Participant 7 reflected,

> I read a fair amount of information about NVP from the websites, and Social Media groups on the website. Especially a pregnancy related web site called https://www.reddit.com/ I obtained different feedback based on what people had done. I accessed it online. Their perceptions of feedback and what they said.

Participant 8 stressed the importance of reading,

> I read a fair amount of information about NVP from the websites, and Social Media groups on the website. Especially a pregnancy related web site called https://www.reddit.com/. I obtained different feedback based on what people had done. I accessed it online. – accessed It online. Their perceptions of feedback and what they said.

Participant 9 said,

> I did not do much – when I worried if I might miscarriage, I did not know much about NVP. I googled to find out more information. But, since, I am going to

> medical school and have decided to become an OBGYN, I did not learn much about it at school.

Participant 10 remembered,

> I probably googled talked to husband residences and his contacts. I was even more surprised when she found out the doctors did not know about NVP. But, found information research papers, statistics, and HG research, has been more helpful with the 2nd pregnancy. Was not educated at all about it. Not at all.

Participant 11 recalled,

> I researched hypnotherapy. I learned about essential Oils from a family member. I honestly researched online. I researched articles and things that would help me with NVP. Some people benefit from Hypnotherapy, and they created a short list of things she could do. The list included acupuncture. I wanted to experience it before she was in a vulnerable position. It is better to start scheduling appointments for acupuncture and I could strengthen my body up before the pregnancy. I was praying that was going to make the difference. Somewhere before four and six weeks I was considerably sick and did not see any relief in sight.

Participant 12 indicated, "I definitely talked to people who were pregnant before and learned what to expect when I was expecting my baby. I used the internet and Google."

Information From Internet/Google. Seven of the 12 participants noted that they searched for information about NVP on the internet or Google. Participant 1 commented,

"I definitely talked to people who were pregnant before and learned what to expect when I was expecting my baby. I used the internet and googled." Participant 2 said,

> Google becomes my best friend. I Googled to find to help and to live with the process of NVP. Did not use a lot of pregnancy apps. Although I have a lot of apps now. I looked for reputable web sources. She said I asked people about their experience they have had which is trustworthy, internet.

Participant 5 described, "I wore a nausea bracelet called a C Band which was elastic, googled remedies, ginger gum, ginger candy, ginger, drank chamomile tea, drank peppermint tea and rosehip tea, jasmine leaf tea for pregnancy nausea." Participant 8 shared, "I did not know much about NVP. I googled to find out more information." Participant 9 recalled, "Probably googled talking to husband residences and had contacts I was even more surprised when I found out the doctors did not know about NVP." Participant 11 indicated, "I definitely talked to people who were pregnant before and learned what to expect when I was expecting my baby. I used the internet and googled." Participant 12 stated, "I tried a bunch of teas and peppermint if I felt nausea and really tried to google stuff the second time to calm the stomach. Overall perception 80 % google and 20% family."

Little to no Knowledge About NVP. All the 12 participants noted that they had little to no knowledge about NVP before experiencing it for themselves. Participant 1 said,

> I knew almost nothing, unless you saw it in a movie, and then the movie just keeps going on it does not educate or answer questions. I just did not know

> anything about exposure to NVP. I felt I was well versed and did not come across anything with info on the NVP experience.

Participant 2 remarked, "Not terribly much. People would get nausea and some people did get sick. I did not understand how many variances it was experiencing NVP. Some people experienced NVP for an exceptionally long time, and others a few weeks." Participant 3 stated, "I Mainly go to the local birth circle posted in the FB group. I attend the meetings to receive advice from FB circle and the experts." Participant 4 realized, "I did not have anyone else around to help me. Nothing! I did not know anything about pregnancy I knew nothing about NVP– until she went to child education classes which she said was in her early 2nd trimester." Participant 5 realized, "Nothing – and that you have morning sickness and thought it came in the morning. But it did not." Participant 6 admitted, "I knew nothing." Participant 7 remembered, "Just that a lot of people got traditional morning sickness while pregnant. But I had not experienced it previously." Participant 8 pointed out, "I knew that NVP was very common, and it was associated with Hyperemeis Gravardum (HG) high level of HCG (Human Chorionic Gonadotropin)." Participant 9 remembered, "All I knew that Kate Middleton (the actress) experienced a severe case of NVP, and it happens to a high % of women." Participant 10 cited,

> Prior to getting into conversations with my mom I learned how sick my mom was with me and my brothers. With the first pregnancy I did not think about it much. Pregnancy was very private while she was aware of conversation at some point. I do recall that it was top of mind. Asked self, am I going to be sick?"

Participant 11 stated, “Not much but that it is pretty- typical during the first trimester of pregnancy.” Participant 12 elaborated,

> Would probably have sought help a lot sooner, for the first time when it was severe. I thought it was normal and not much support that could be done. I was very young and did not know where to get answers. Tried to suck it up for a long time.

Information From Friends/Family. Eight out of 12 participants noted information obtained from my friends were supportive, helped me make tea, and perceived it was important to get what I needed quickly. Participant 1 indicated that emotional support was there, and friends were helpful in various ways. Participant 2 stated,

> There was a total of five people pregnant who I worked with at one time. We always liked to do things together. We were support for one another. My friends never said anything against the use of CAM. My friends were supportive. There was never a mean moment, but a caring moment. My friends, explained how it worked and the reasons why it worked to help me.

Participant 3 commented,

> They all treated me well.” Participant 5 remarked, “With concern and they provided different remedies. A Russian family made me Garlic tea, and it was similar to sipping on chicken soup broth starting with liquid. It depends on what group of friends. The Birthing community was very support. There were others

> that think some of the things I did were ridiculous. I have friends that think natural medicine was insane.

Participant 8 explained, "My friends perceived that it was important to get what I needed quickly." Participant 10 admitted,

> So, I did not tell friends. I was superstitious until the first trimester. I would catch up during text messages and become busy by phone with all the young moms and their kids. Once they found out I was pregnant and not feeling well they checked in on me and were supportive.

Participant 11 remembered, "I would say friends who were previously pregnant had remedies they used, everyone tried to recommend what was safe. I think talking to resources that were available; family, friends, mom groups, pediatrician, and what worked for you." Participant 12 disclosed, "Lightly, it comes with pregnancy not much support or empathy from friends and family members."

Research Question 2

RQ2 stated, what are the perceived benefits and perceived barriers of using a CAM modality among women who have experienced NVP for a sample of women between 19-30 years of age?

Category and Theme 5: Barriers experiencing addressing NVP: Perceived Benefits

All of the participants noted some benefits of using CAM medication for their care and their health status changed during their pregnancy and what influenced them to treat their NVP symptoms. The participants described the influence of the CAM to treat their NVP symptoms with terms such as wanted a natural pregnancy as much as

possible, trust factor, surrounded myself with a good tribe, I reached out to mom, being informed was important, probably being in the hospital and wanting to feel better, I was motivated to talk with my doctor, the medication works, CAM works, medication and acupuncture works, snacks curved some of my nausea, CAM remedies lessened my symptoms, alternative medicine was benefitable, helped me to relax, essential oils worked, B6 worked for me, drinking herbs worked for me, yoga helped me, it lessened my pain, and ginger worked for me. Participant 1 shared,

> I wanted to have a natural pregnancy as much as possible, natural pregnancy and birth, yes this influenced my decision. Desperation. I guess finding a practitioner that you really connect with is important. I connected with a super grounded midwife, and she shared information that she read. It was a collaborative and respectful relationship.

Participant 2 recalled,

> I think it comes from my mom. I relied on my mom and her suggestions, and the ideas sounded like good suggestions. The knowledge originally came from my mom. There is so much out there. Finding good treatment is not all in one place if that makes sense. It was like a wild goose chase because they have not found everything. I could read an article and determine if it is going to work for me or not. My friends, their decisions, and my mom explained how it worked and the reasons why it worked to help me. They were a known commodity for me.

Participant 3 mentioned,

> It is cultural. My mother and aunts are interested in their Native American heritage and natural remedies. Maternal side of the family. called it "Generational sharing." I was born and raised here in Michigan and my family is from Montreal. It is important to surround myself with a good tribe. My doctor is great. Trust factor of what others know, and experience is essential.

Participant 4 indicated,

> I probably called my mom pretty much, most of the time. I am sure that I reached out to my mom. I did research because my hubby likes to research. My sis had two kids already by that time, so I reached out to my sis as well. It begins by finding a mid-wife and more natural minded doctor which can guide them. Seeking out resources to help you. Alternative medicine depends on whether a person wants it or not. Alternative medicine would come from a midwife or an alternative Doula. I have nothing against doctors it is how they were trained.

Participant 5 indicated,

> Being informed and having support are the two things that are most important. Also, finding treatment and finding pregnancy support groups you talk about so many topics they share the things that help them. I Guess being hopeful to find relief, find something that worked, and I was desperate. Support is real important.

Participant 6 remarked,

> Very simply said, I am a firm believer of western medicine. Now a days with social media I have found extreme success with medical issues and using the boards to research items if I need a medicinal point of voice and outlook.

Participant 7 disclosed, “Probably being in the hospital and wanting to feel better, being sick for two days. On board to follow a medicine regime for a few hours. I just wanted to feel better.” Participant 8 commented,

> I was not motivated to talk about it with my doctor. My prenatal visits were after 10 weeks by then the feelings of NVP were almost gone. There was nothing to do I would recommend talking about NVP with a provider (as it relates to the severity of symptoms) to use or not to use medication, B vitamins. It is important that women understand that they do not have to suffer through it and to get some help and to talk to someone. This information became clear by talking to one of the doctors that I spoke with. I wished I had learned this from the very beginning to build up my resistance.

Participant 9 described,

> With the first pregnancy I was so miserable, I needed to feel better. I fell into deep anxiety and depression and needed to feel better and to come out of the funk. Advocate for yourself. Women should find a different route even if you must change hospitals, go on leave from employers, change physicians. We must advocate for ourselves. I was so out of whack –no one should ever get to that point. It is about exhausting every possibility, because you don’t have the energy too run around town to get support when you are experiencing NVP.

Participant 10 described, “My mom and my sister-in-law. Feels like NVP took my life into its own hands. I am an advocate for speaking up about NVP.” Participant 11 explained,

> I think testing different methods and ruled out and what did not work. I think talking to resources that were available family, friends, mom groups, pediatrician, and what worked for you. As well as testing out what worked for you. Everyone is different and has varying levels of understanding and to make sure to talk with your doctor if something does not feel normal.

Participant 12 stressed,

> Probably the safety of the baby was most important. I struggled with nausea and vomiting and there were options that were safe for the baby that was the most important. I think that the most important thing is to have options, whether it is drinking teas and taking other treatments and just being able to make decisions that they will have the information and the kind of effect you want to have on the baby and yourselves.

Category and Theme 5: Barriers Experienced Addressing NVP

Challenges of Having NVP. Ten of the 12 participants noted that they experienced barriers and challenges receiving treatment for NVP with using CAM as a remedy to reduce the symptoms. The participants described their barriers and challenges with terms such as money issues, knowledge of resources, what works for me, financial barriers, going to the hospital, traveling long distances to the hospital, lack of eating, the cost of CAM, and receiving outside support. Participant 1 expressed,

> Financial Barriers. The money thing was huge. I attended an acupuncture clinic 20-40 minutes for each appointment no questions asked. A lot of other barriers were not accessible. Income, food, being able to eat more and feel better if it were

approved by someone else. It was so expensive to eat out. Remember, I was trying to create a budget. Additional stressors were our living arrangements. My husband lived in Detroit with my parents while I was pregnant. He obtained additional training during this time in preparation for the new baby. Really stressful from all angles. I was without my partner during the first pregnancy and lived with my roommate at the time. Emotional support was there, and friends were helpful in various ways. Minimal funds/money to afford other therapies to help me. Things did not immediately get better but emotional barriers prevented me from getting better.

Participant 2 explained,

The biggest barrier first time around having a baby is that things begin to build-up over time. Food was her struggle during the first pregnancy. The obstacles arrived for me to figure out what worked and what did not work.

Participant 3 said, “Nothing.” Participant 4, commented,

The barriers were knowing my resources. My husband did not know either and did not have any outside support and we just suffered through it. We did not join any face book mom groups or social media, at that time did not share her pregnancy with anyone until the 2nd trimester which made her feel even more lonely. I did not know where to go. I trusted the medical professionals. But they were trained to heal the sick not to use CAM. I did not have the resources that I have now. Geographical location was a factor in an area that she did not know anyone. I was diagnosed with hypothyroidism.

Participant 5, indicated,

> I just could not cope with even the smells, affected me at work, and at school. I Guess being hopeful to find relief, find something that worked, and I was desperate. In my second pregnancy I did not go out as much. I began to adapt to the smells that triggered my nausea. It did not stop me from doing anything.

Participant 6 stated, “Very simply said, I am a firm believer of western medicine.”

Participant 7 recalled,

> Probably the only barrier I experienced was to sit in the waiting room at the emergency room hospital for 8 hours before they got to see me. They were terribly busy at the hospital. being in the hospital being sick for two days. On board to follow a medicine regime for a few hours. I just wanted to feel better.

Participant 8 admitted,

> No barriers. However, I do remember one time it was worse when visiting in-laws house and they do not keep snacks in the house. My husband’s father is a check and they do not keep snacks in the house. The barriers were mild.

Participant 9 described,

> A lot of it came down to the providers were not listening to her. Eventually I had to stand up for myself. Found a better medical practice and better practitioners and had access to the medication. Hospitalization was very well covered, and it does not cost me much. I might have gone to the emergency room and, I am now part of a support group.

Participant 10 remarked,

> It would have helped if I did not have to go to work. I stopped doing the acupuncture because I was not seeing the results and the costs of the CAM therapy for each time averaged about $100.00. I would often relax and found it to be a calming relaxing experience but not getting any positive results afterwards. I am not sure if there were any barriers and how it was impacting her life and how little resources there were to solve them. Upset and frustrated – "How is it that we know so little to help a human being feel better? I feel the same way about breast feeding.

Participant 11 disclosed,

> Yes, I think certainly in my job I had to travel (not long distances) in my car, made it more uncomfortable and had to pull over when I was not feeling well. I was not sure what specific things I had to do to manage it. I brought ginger chews and peppermint gum, and Altoid mint candies.

Participant 12 pointed out,

> Definitely. The fact that medications are off the table. That would be a barrier. It kept me from going to the doctor at first and was once prescribed something. Did not know of any options to help". Overall, all of the applicants experienced barriers and challenges receiving treatment for NVP with using CAM as a remedy to reduce the symptoms.

Financial Challenges. Three of 12 participants noted that they had financial challenges.

Participant 1 shared,

> Financial Barriers. The money thing was huge. I attended an acupuncture clinic 20-40 minutes for each appointment no questions asked. A lot of other barriers were not accessible, income, food, being able to eat more and feel better if it were approved by someone else. It was so expensive to eat out. Remember, I was trying to create a budget. I ultimately added a whole another layer of money, taking care of self and a baby. Minimal funds/money to afford other therapies to help me.

Participant 9 commented, "Found a better practice and better practitioners, access to the medication, and hospitalization was very well covered, and it does not cost me much." Participant 10 explained, "I stopped doing the acupuncture because I was not seeing the results and the costs of the CAM therapy for each time averaged about $100.00."

Paying for Medication. Three of the 12 participants noted that there was a barrier and challenge with paying for the medication due to NVP while pregnant. Participant 1 described.

> Financial Barriers and the money thing was huge. I attended a Complementary Alternative Medicine Acupuncture clinic 20-40 minutes for each appointment no questions asked. A lot of other barriers were not accessible. Income, food, being able to eat more and feel better if it were approved by someone else. It was so expensive to eat out. Remember, I was trying to create a budget.

Participant 9 pointed out, "Paying for medication, I found a better practice, better practitioners, and access to the medication. Hospitalization was very well covered, and it did not cost me much." Participation 10 stressed, 'I stopped doing the acupuncture

because I was not seeing the results and the costs of the Complementary Alternative Medicine therapy for each time averaged about $100.00."

Going to the Hospital. Four of the 12 participants noted that they made several trips to the hospital, and this was a challenge to them. Participant 4 indicated**. "**I found the classes through the hospitals and had a really good doctor." Participant 5 disclosed,

> I had Hyperemis Gravardium (HG) with the first pregnancy and was hospitalized for 8 days, then came home with a pic-line, and sent a nurse over to put the pick-line into her arm and hook her up with a port and at night would plug into the IV.

Participant 7 recalled,

> About 10 weeks later I realized I could not keep down water and ended up going to the hospital and was diagnosed with Hyperemeisis Gravardium HG and ended up in the hospital for a couple of days. I was hospitalized: Moderate to severe once admitted to the hospital and was put on medicine. Friends and family were nervous while I was in the hospital because it was in the early stages of the pregnancy, but everybody was glad when I began to feel better. My experience was to sit in the waiting room at the Emergency Room hospital for 8 hours before they got to see me. I was distracted at the beginning lost a couple of days from work when admitted to the hospital. Once I was released from the hospital, I felt so much better. If I only knew what over the counter medicine to take before landing myself in the hospital.

Participant 9 pointed out,

> By week 9 I had lost 15-20 pounds and they had to check my ketones and I was malnourished, and I had to be admitted into the hospital. After a few more episodes I needed an IV fluid, along with Zofran. When admitted to the hospital I had to tell my parents and my mom came to visit and to take care of me once I was discharged from the hospital. For health professionals to say that I am not well and, I am not functioning, women should find a different route even if you must change hospitals, go on leave from employers, and change physicians.

Research Question 3

RQ3 stated, what factors influenced the decision-making process of deciding how to treat NVP symptoms, specifically when related to using a CAM modality, or not, among a sample of women between 19-30 years of age, who were pregnant for the first time? The data were collected from open-ended interview questions guide to answer the Research Question 3. The study participants indicated their knowledge and perceptions of factors that influenced the decision-making process of deciding how to treat NVP symptoms related to using CAM modality while pregnant.

Category and Theme 6: Management/Treatment: Recovery From NVP

Eleven of 12 participants used different types of management/treatment to recover from NVP during their pregnancy. The participants described their management and treatment in their recovery from NVP such as certain herbs, therapy, candy, drinks, medicine, vitamins, eating light foods, snacks, medication, fluids, crackers, water, and different teas. Participant 1 committed,

> Acupuncture 2nd 3rd trimester, Aromatherapy 2nd, 3rd trimester, Mint Oil 1st trimester 2nd third trimester, Grapefruit 1st, 2nd, 3rd trimester, Raspberry leaf 1st trimester, Garlic root 1st trimester, Tumeric 1st trimester, Multi-vitamin B6 2nd Trimester, Homeopathic remedies 2nd, 3rd trimester, Meditation 1st, trimester, Yoga, Sepia 30/12 Name of Homeopathic Remedies used were for morning sickness and nausea Sepia helps with nausea especially at the sight and smell of food, Tabacum reduced incessant nausea that escalates with certain smells like tobacco smoke and vomiting, Nux Vomica helps with irritability of the entire digestive system.

Participant 2 said, "Chiropractic 2nd 3rd trimester, Raspberry leaf tea 1st, Ginger 1st, 2nd trimester, Prayer 1st, 2nd, 3rd trimester, Homeopathic remedies 2nd third trimester, Yoga 3rd trimester, Rescue Remedy." Participant 3 shared, "B6, Ginger, peppermint". Participant 4 Chiropractic, Ginger, Prayer, Psychotherapy, Hypnosis, self- hypnosis, Meditation, Yoga." Participant 5 indicated, "Chiropractic, yoga, meditation, homeopathic meditation, herbs, anything not prescribed." Participant 6 elaborated, "Yes, using a B12 – Lessened the primary symptoms of Nausea that I was having." Participant 7 disclosed,

> I was distracted at the beginning lost a couple of days from work when admitted to the hospital. The remedies I used were: Relaxation Therapy 1st trimester, acupuncture during the 1st trimester, Vitamin B6 Multivitamin 1st trimester, Yoga 1st trimester. I was working during the time as a project manager.

Participant 8 stated. “I did not know that Deep breathing was a CAM Therapy. But I looked at it as if it was an instinct, breathing I did not look at it or consider it a CAM remedy or Therapy.” Participant 9 cited,

> I had to stop acupuncture and had to clear the spleen. Zofran clears your digestive tract so that nausea would go away. I would have to drink a lot of fluid. The acupuncture would digress into HG mode. I had about four or five acupuncture session while I was pregnant. The acupuncture was helping with the migraine headaches.

Participant 10 remarked, “Acupuncture in the 1st trimester, along with Aromatherapy 1st trimester, Raspberry Leaf 1st trimester, Multi vitamin B 6 1st Trimester, Yoga first trimester, B 6, Prayer, Yoga.” Participant 11, explained, “1st trimester Aromatherapy 1st trimester Raspberry Leaf 1st trimester, Acupuncture, aromatherapy, Raspberry Tea, B 6, Prayer, Yoga.” Participant 12 recalled, “Peppermint 1st trimester, Multi vitamin B 6 - 1s, 2nd 3rd trimester”. “Peppermint tea, multi-vitamin B6, Yoga.”

Used Herbs. Ten of the 12 participants noted that they used different types of herbs to treat their NVP during their pregnancy. Participant 1 said, “Raspberry leaf 1st trimester, Garlic root, Tumeric”. Participant 2 shared, “Ginger, and Raspberry leaf.” Participant 3 Indicated, “Ginger and peppermint.” Participant 4 recalled, “Ginger.” Participant 5 stated, “Chamomile, Peppermint, raspberry, Ginger.” Participant 6 described, “Tumeric.” Participant 9 commented on addressed, “Chamomile.” Participant 10 highlighted. “Raspberry leaf.” Participant 11. “Peppermint”. Peppermint 12 mentioned, “Chamomile, Green tea, peppermint, raspberry tea.”

Used Vitamins. Eight of the 12 participants noted that they used certain vitamins as a form of treatment for their NVP. Participant 1, "I started googling and found information on Multi-vitaminB6. I could not keep the B6 down." Participant shared 3, "I heard from my doctors to start taking B6." Participant 4 commented, "I used B6 in first pregnancy." Participant 5 elaborated, "Vitamins cocktails were mixed into the pick-line of the saline solution to make sure that I was staying hydrated, and I used Multi-vitamin B6." Participant 7 shared that, "The hospital gave me vitamin B6 and a suppository I don't remember what else, it was a year ago." Participant 9, indicated, "I was given a prescription of Unisome and a B6 multi-vitamin to minimize NVP." Participant 10 realized, "I was in a constant state of the nausea. I took Vitamin B 6 and Unisome before going to bed to help me sleep through the night and not get nauseous." Participant 11 recalled, "taking multivitamin B6 to prevent NVP".

Used Therapies. Eleven of the 12 participants noted that they used different types of therapies to treat their NVP during their pregnancy. Participant 1 indicated, "I used Acupuncture, meditation and Meditation to treat NVP." Participant 2 shared that, "I Chiropractic Prayer, and Yoga." Participant 3 indicated that Yoga and Rescue Remedy flower essences were the therapies utilized. Participant 4 commented, "Chiropractic, Psychotherapy, Prayer Therapy, Meditation, and Yoga were used at a treatment for NVP." Participant 5 disclosed, "Acupuncture Chiropractic, music therapy, Relaxation therapy, Imagery, and Reiki Therapy were incorporated into her life during pregnancy." Participant 7 recalled the therapies used, "Acupuncture, Relaxation, and Yoga." Participant 8 pointed out that she did not think of "Deep breathing as a Complementary

Alternative Medicine." Participant 9 mentioned, "Acupuncture and Reiki." Participant 10 indicated, "Acupuncture, aromatherapy, Prayer Therapy, and Yoga were all utilized as a therapy." Participant 11 explained, that "Yoga was practiced as a therapy to treat NVP." Participant 12 incorporated "Relaxation Therapy. "

Category and Theme 7: Knowledge of CAM: Understanding the use of CAM

All 12 participants noted that they had an understanding of the use of CAM in helping them to reduce being sick with nausea and vomiting during pregnancy. The participants described their knowledge and understanding of the use of CAM with such terms as complementary alternative medicines used to relax, use yoga techniques, psychotherapy, medications, deep breathing techniques, walking to relieve tension, light eating, western medicine using acupressure eating certain candy, ice pops, using herbs, and alternative options instead of taking traditional medicine. Participant 1 mentioned, "I knew nothing about CAM, No, not before I became pregnant. In the world of Health and Wellness and have people who are close to me who use homeopathy who would were making suggestions." Participant 2 shared,

> One of the better ways to understand CAM is having a personal experience people must prescribe to medicine because the nausea is more severe. I prefer using an alternative method. Before jumping to conclusion. I used Homeopathic remedies and asked a clerk in a health food store for suggestions with nausea.

Participant 3 disclosed, "Before I became pregnant, I learned bits of information here and there about CAM. A friend educated me on the uses of essential oils. I learned the

differences between the Holistic practices with insurance vs. out of pocket." Participant 4 pointed out,

> Prayer has always been used in her whole life. It is better than medicine. Although, it does not discount medicine. I also believe that our bodies can heal itself naturally. Medicine is available to help if needed but not always the first choice.

Participant 5 explained, "Yes, CAM was more holistic in nature. CAM is an alternative option to address NVP." Participant 6 stated, "I assume that it complements the medicine used with CAM." Participant 7 mentioned,

> I think that there is a time and place to try a variety of treatments and not self-medicate all the time. I will not turn away medicine if it will make me feel better. I will not only try medicine I was open to it but will tried other things.

Participant 8 explained,

> CAM, I think of it as an alternative method to help alleviate symptoms that otherwise use western/traditional medicine hasn't healed. Again, because I am a medical student, I could get a prescription of Zofran. I did not really think much about deep breathing as CAM.

Participant 9 expressed, "It is basically minimally invasive western medicine avoiding usage of pharmaceutical drugs. I strongly believe in it/CAM. I am very pro alternative medicine." Participant 10 expressed,

> Sometimes I would look at those things as hocous pocus (CAM remedies)– used in eastern medicine used effectively for years in Western Medicine. I practiced

> Yoga religiously. I practiced Yoga daily before pregnant beyond just that it strengthens and tones the body. It became a vital way that I started my life and my day. Diffusing an oil helped me without hesitation, and I would use those CAM remedies again.

Participant 11 remarked,

> CAM is a Nonprescription alternative, nothing over the counter, without needing a doctor and pharmacist to keep things in check. I think it helped considerably especially not a lot of options to help. CAM was reasonably easy to find when looking for relief.

Participant 12 commented, "To me CAM means alternative to prescribed medication or even over the counter remedies, more so Natural remedies. Teas were the most helpful."

Acupuncture. Four of the 12 participants noted that they use acupuncture technique as a way to reduce symptoms and relax during pregnancy. Participant 1 mentioned,

> Acupuncture, I attended an acupuncture clinic 20-40 minutes for each appointment no questions asked. Acupuncture helped mildly. Acupuncture may have helped slightly but it honestly didn't give me a ton of relief. Acupuncture took 65-75 minutes a session, and I could have done it for shorter. But, by the time they implemented the needles, I would take a long nap. Basis a couple of minutes here and there. Acupuncture helped and it would accumulate over time. One of the other things is that acupuncture filtered my liver stuff, and excessive amounts of hormones.

Participant 2 shared, “I used acupuncture regularly during the first trimester and that helped.” Participant 9 stated,

> I was getting acupuncture for migraine headaches treatments. I had about four or five acupuncture sessions while I was pregnant. The acupuncture was helping me with the migraine headaches. I was the only child in my family who was more open to acupuncture and Reiki.

Participant 10 mentioned,

> I wanted to experience it before I was in a vulnerable position. It is better to start scheduling appointments for acupuncture and I could strengthen my body up before the pregnancy. I was praying that it was going to make the difference. Somewhere before four and six weeks I was considerably sick and did not see any relief in sight. I stopped getting the acupuncture because I was not seeing the results and the costs of the CAM therapy for each time averaged about $100.00. If I was getting an acupuncture session it was for an hour.

Herb Remedies. Five of 12 Participants noted that Herb teas helped to reduce many of the symptoms they were experiencing during their pregnancy. Participant 1 shared, “I kept hearing about ginger Candy. I heard about using Ginger candy from all my aunts, family members, and the use of ginger candy and ginger tea.” Participant 2 pointed out, “With the first child I ate hard ginger candy. The ginger candy was sometimes too strong to eat. I also used the ginger candy, it helped me as well.” Participant 5 indicated, “I used herbs to address my NVP. A Russian family made me garlic tea, and it was similar to sipping on chicken soup broth starting with liquid. I used

ginger gum, ginger candy, and ginger." Participant 6 said, "As for herbs, homeopathic medicine I apply it to my baby." Participant 7 admitted, "CAM remedies with ginger teas were used to minimize NVP." Participant 12 mentioned,

> The various things I tried were multiple types of herbal teas on the list: Chamomile, green, peppermint and raspberry. Teas were the most helpful. I think that the most important thing is to have options, whether it is drinking teas and taking other treatments and just being able to make decisions that they will have the information and the kind of effect you want to have on the baby and yourselves.

Vitamin B6. Six of the 12 participants noted that they used vitamin B6 to reduce some of their symptoms when they felt nausea during their pregnancy. Participant 5 stated, "I tried B vitamins when experiencing symptoms of nausea." Participant 6, mentioned, "I was taking B12 which was a normal vitamin given to all pregnant women. Other than that, I took nothing else." Participant 7 indicated, "The hospital gave me vitamin B6, Unisome and a suppository I don't remember what else it was a year ago. I used Vitamin B6 Multivitamin during my 1st trimester." Participant 8 shared, "I would recommend talking about NVP with a provider (as it relates to the severity of my symptoms) to use or not to use medication, B vitamins." Participant 10 described, "I took Vitamin B 6, and Unisome before going to bed to help me sleep through the night and not get nauseous." Participant 11 commented, "I used multi-vitamins B 6 to address NVP."

Category and Theme 8: CAM Influence on Care: Health Status Changed

All 12 participants noted some CAM influence on Care using CAM medication for their care and their health status changed during their pregnancy. The participants described the influence of the CAM medication on their health status with terms such as the medication works, CAM works, medication and acupuncture works, snacks curved some of my nausea, CAM remedies lessened my symptoms, alternative medicine was benefitable, helped me to relax, essential oils worked, B6 worked for me, drinking herbs worked for me, yoga helped me, it lessened my pain, and ginger worked for me. Participant 1 noted, "The CAM medication helped me to relax and remain calm during my pregnancy." Participant 2 noted, "Acupuncture helped me to relax along with yoga." Participant 3 noted, "Alternative medicine worked for me." Participant 4 noted, "CAM remedies lessened my symptoms." Participant 5 noted, "Western medicine helped me with my pain most days." Participant 6 noted, "Alternative medicine helped me to reduce traditional medicine." Participant 8 noted, "Vitamin B6 and yoga help me during my pregnancy to reduce the nausea." Participant 10 noted, "Yoga and herbal teas helped me to keep my food down." Participant 11 noted, "CAM medicine is relaxing and helps with the nausea." Participant 12 noted, "I took the CAM but also drank lots of fluid during my pregnancy."

CAM Remedies Worked. Nine of the 12 participants noted that many of the CAM remedies worked for them in reducing the signs and symptoms of NVP during the time of their pregnancy. Participant 1 noted, "Yes, CAM medication helped me to relax and remain calm during most of the times. I was trying to keep food down and experiencing nausea during my pregnancy." Participant 4 noted, "CAM remedies

lessened the symptoms along with praying for help to reduce the feeling of nausea during my pregnancy." Participant 2 noted, "CAM medication curbed by nausea many times during my pregnancy." Participant 6 noted, "I took lots of CAM medication instead of taking many of the doctor prescribed medication." Participant 9 noted, "CAM medication such as essential oils, mint oils and ginger help me make it through most days during my pregnancy." Participant 10 noted, "Peppermint tea, vitamin B6, and yoga helped me a lot during my pregnancy." Participant 11 noted, "CAM relaxes some of the nausea you feel during your pregnancy and with NVP."

Medication and Acupuncture Worked. Five of the 12 participants noted that the CAM medication and the acupuncture worked in reducing their symptoms of being nausea and vomiting during their pregnancy. Participant 1 noted, "I like the idea of using acupuncture and CAM together. It seems to reduce nausea and relax me so I can eat. The food also seems to stay on my stomach." Participant 2 noted, "Acupuncture helps along with yoga and eating light snacks during the day." Participant 3 noted, "I liked using alternative medicine along with the acupuncture treatment together they seem to work well together." Participant 6 noted, "I used acupuncture and alternative medicine together to help reduce the symptoms of nausea and vomiting during my pregnancy." Participant 8 noted, "I used acupuncture to relax, vitamin B6 for red blood cells, and yoga to relax. All three of these seemed to help me when I was pregnant especially during the first few months of pregnancy."

Summary

The purpose of this multiple case qualitative study is to explore the perceptions of a sample of women from the Detroit, MI metropolis area who have experienced the phenomena of NVP, and their pathways for relieving symptoms. I applied a participatory framework of the HBM to better understand the perceptions of the community under investigation from the view of the members themselves (Glanz et. al., 2015). The HBM contains core constructs that are generated from social and behavioral sciences that provide health practitioners an opportunity to evaluate and access specific health problems (Boslaugh, 2008; Glanz et. al., 2015). To contribute to the current body of knowledge on this topic, the current iterative qualitative multiple case study design methodology applied a thematic analysis after interviewing a sample of women who experienced NVP.

The final chapter from this study is Chapter 5. This chapter will provide key findings including the interpretations of the findings compared to the review of literature and how the study extends the current knowledge on NVP and CAM in relations to pregnant women. I also discussed the limitations of the study and make recommendations for future research that are grounded in the strengths and limitations of this study as well as the literature reviewed in Chapter 2. Finally, I present potential positive social change implications for this study.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this multiple case qualitative research was to improve the understanding of perceptions of experiences related to women who have experienced NVP ages 19-30, gain insight into perceptions for women and the potential use of CAM modalities to treat NVP symptoms, and how the decision-making process occurred for them in making a decision to, or not to pursue its use. I applied a participatory framework of the HBM to better understand the perceptions of the community under investigation from the view of the members themselves (Glanz et al., 2015). The HBM contains core constructs that are generated from social and behavioral sciences that provide health practitioners an opportunity to evaluate and access specific health problems (Boslaugh, 2008; Glanz et al., 2015).

The data analysis revealed eight themes based on the different perceptions and experiences of the participants. These included: Experience of NVP with pregnancy: Signs/symptoms, Impact of NVP: Moderate and Severe Problems with NVP, Family Friends Reactions to NVP: Supportive, Knowledge/Education of NVP, Barriers experiencing NVP addressing NVP, Management/Treatment: Recovery from NVP, Knowledge of CAM: Understanding the use of CAM, Knowledge of CAM: Health Status Changed. The themes are interpreted in the following section.

Interpretation of the Findings

The results of this study have some interesting and long reaching implications that will be addressed in the current chapter, as well as ideas and suggestions for future

research that should be conducted to continue this line of inquiry. To begin, each of the themes is discussed within the context of the evidence-based literature synthesized in Chapter 2 and the theoretical framework for this study, by theme.

Theme 1: Signs/Symptoms

For Theme 1, the results of the analysis indicated that all of the participants reported various signs of NVP during their pregnancy. Some described their signs and symptoms as feeling sick all the time during their pregnancy and they did not like the smell of food. Some of the participants noted that just the smell of food made them sick. Several of the participants revealed that they lost weight due to the lack of eating and some had to go to the hospital due to being sick. Several of the participants reported that they were nauseous most of the time during their pregnancy and had to vomit several times during their pregnancy. Several of the participants noted that they lost weight. The weight loss ranged from a small amount to a large amount due and caused the women health concerns. Several of the participants noted that they felt stressed during their pregnancy.

The findings in Theme 1 indicated women reported extreme conditions of NVP, which has been viewed as the standard of accepted living with pregnancy. The HBM constructs provided the framework as the foundation for the value-expectancy model, research questions, basis for data analysis, and findings grounded in this study (Glanz et al., 2015). The primary goal was to identify the participants' perceptions and offer a new way to educate mothers on valuing a health assessment or expectation, using CAM with a

specific action to achieve an outcome to avoid illnesses by directly controlling the behavior using the HBM.

According to Chortatos et al. (2015), it is estimated that NVP conditions have commonly occurred among pregnant women during gestation for more than 4,000 years. NVP have culturally and clinically been viewed as common and uncomfortable symptoms, but research supports this can be a safety concern for a mother caring for herself and fetus (Almond et al., 2016; Pallivalappila et al., 2015; Revell, 2017). Evidence documents that managing the stress and safety of nausea and vomiting during pregnancy is a regular occurrence which happens to approximately 90% of all pregnant women lasting upwards of 20 weeks (Argenbright, 2017; Bustos et al., 2016; Chartatos et al., 2015; Mahbobeh et al., 2015; Revell, 2017). Implications then include the understanding of potential impact of NVP is an important factor to prevent pregnancy sickness which is widespread, as well as the potential stress the NVP causes the pregnant mother (Forbes, 2017). While it is a culturally accepted norm for nausea and vomiting to occur during pregnancy, there is an important implication for a need in increased awareness of safety risk factors for mothers in monitoring this symptom. Individuals who are often diagnosed with NVP concerns often experience the stress associated with the prognosis. Experiencing NVP during pregnancy is often viewed as a fetoprotective mechanism that induces food aversions to meat, dairy, and seafood which could carry toxins, pathogens, or mutagens (Forbes, 2017). For example, women who already believe that they could be at risk for developing NVP might consider changing their meal plan if they think they are already at a perceived risk for pregnancy sickness. It is

essential to validate and measure one or more specific HBM that would complement a particular intervention (Glanz, et al., 2015).

Theme 2: Moderate and Severe Problems With NVP

The results of the study revealed that the participants expressed that their problems with NVP ranged from moderate to severe. These symptoms impacted their everyday life from working to "just making it through their daily lives." Some of the participants noted that problems were severe, and they were sick most days during their pregnancy. Other participants reported that they had moderate problems with NVP but had to go to the hospital several times during their pregnancy. Some of the participants reported that they felt miserable most of the time and had to miss work several days during their pregnancy.

Several of the participants noted that they had severe impact from NVP, and they could not keep food down during most of their pregnancy. Only two of the 12 participants reported that they had mild symptoms with respect to NVP during their pregnancy. It is important to note that this theme could be a result of the topic of interest. Possible women with more moderate to severe problems with NVP could be more likely to respond to an interview about the issue if the environment is non-threatening. It is unknown what the severity is within the population at large. However, there is evidence-based literature indicating that the main cause of this common problem is still unknown (Ozgoli, 2018). Although moderate to severe NVP is not an uncommon problem, and while there does not seem to be a clear picture of how frequent moderate to severe NVP

is, there is a clear picture of how serious the consequences are for pregnant women and their fetuses (Heitman, 2017; Ozgoli, 2018; Revell, 2017).

Approximately 80-90% of women experience nausea and vomiting during pregnancy NVP (Almond et al., 2016; Argenbright, 2017; Bustos, 2017; Havnen et al., 2019; Heitman et al., 2016; Trovik & Vikanes, 2016). NVP is considered one of the most common complaints found amongst pregnant women and is encountered by approximately 50% of the pregnant women's population (Argenbright, 2017; Bustos et al., 2017). According to Heitman et al. (2015), 75.7% of the women experienced a change in their quality of life due to severe cases of NVP and many women have exercised their personal preference not to become pregnant again. If NVP is left untreated it can develop into advance stages ranging from moderate NVP to severe hyperemesis gravidarum, hospitalization and even morbidity (Argenbright, 2017; Brown, 2016; Heitman et al., 2016). For some women NVP will evolve into a severe case called hyperemesis gravidarum (HG). This disease, when left untreated can lead to morbidity for the mother and unfavorable birth outcomes (Havnen, 2019; Trovik & Vikanes, 2016). While researchers argued over the etiology or pathogenenesis of NVP, it appears most likely to be a byproduct of placental hormones with human chorionic gonadotropic.

The HBM was utilized as the lens to guide, identify, and align the best practices for using CAM and interpret findings according to their beliefs and perceptions of using CAM to alleviate NVP according to the six core constructs (Glanz, et al. 2015). The HBM was also utilized in this study to assess individual's beliefs and to indicate who are at risk for developing NVP and what measures to take. According to an individual's

characteristics, there is a strong probability that by personalizing risks, educating individuals on perceived susceptibility could change their health behaviors to avoid NVP, which will shed light on the seriousness of their consequences. Further, educating individuals on the best practices learned about utilizing CAM could also inform individuals about ways to diminish the likelihood of NVP as a condition and the perceived severity of contracting the disease with the short and long-term potential consequences.

I considered the two of the six constructs of the dimensions of the HBM in the study to target the participants' perceptions to understand the eight themes that aligned with the experience of NVP. The HBM, Research questions, and final codes were aligned to evaluate the findings of the twelve participants; Impact of NVP on pregnancy, Family, and friend's reaction to NVP, Knowledge/Education of NVP, Barriers of experiences addressing NVP, Management/Treatment, Knowledge of CAM, Knowledge Health Status Changed. I interpreted the findings for perceived susceptibility according to the women's belief about the likelihood of contracting and acknowledging NVP. The HBM construct perceived severity was evaluated by recognizing each individual's belief and the seriousness of the NVP concerned, and the ramifications of leaving it untreated (Glanz, et al 2015). Evidence supports this important link to family and friends. Pregnant women can get information to help them cope with pregnancy in many ways, including from other women, family, friends, magazines, social media groups, doctors, the medical field, and a variety of self-help pregnancy manuals (Frawley et al., 2015). The findings

indicated the severity of the quality of life for mothers feeling stigmatized by NVP and CAM offering some ray of hope.

Theme 3: Supportive

The results of the study revealed that the participants received supportive help from their family and friends. The participants described the support they received as helpful. Several of the participants reported that their family or friends provided them medicine for nausea and vomiting issues and was there when they had to go to the hospital. The participants also noted that their family or friends expressed great concern about them having symptoms of being nausea and vomiting during their pregnancy. The participants revealed that friends and family members were very supportive and helpful with their needs in trying to get better during their pregnancy. The interpretations of the participant findings indicate that CAM is beneficial for women during pregnancy. Sixty-nine percent of health healthcare professionals indicated that there is some value in incorporating CAM during NVP (Kennedy et al., 2016).

Theme 4: Self-Education

The results of the study revealed that all the participants reported that they had to educate themselves about NVP and ways to treat it. Some of the participants reported that they had no knowledge about NVP. The participants also reported that they had little to no knowledge about NVP and CAM before experiencing it for themselves. They described their education and knowledge in terms such as little knowledge, talked to a friend, talk to a family member about NVP, education from the doctor, attended a class on NVP and CAM therapies to minimize nausea, attended classes, and searched the

internet, and Google the term CAM and NVP. The findings indicated that it is essential to develop mainstream childbirth education programs for pregnant women about CAM to reduce NVP (Sullivan & McGuiness, 2015).

Research supports this need for pregnant women to learn about CAM from trusted and safe sources (Birdee et al., 2014; Frawley et al., 2015; Hall & Jolly, 2014; Pallivalappila et al., 2014). However, it is critical that information and treatments also be regulated and have oversight. According to Hwang et al. (2016), the safety and efficacy of understanding CAM are essential when educating and providing adequate exposure to pregnant women's health. With the use of CAM modalities steadily increasing we may be able to improve education efforts by first understanding what the current populations perceives related to the use of CAM to treat NVP and how it applied decision making processes. Health educators can then use these insights to apply them to future ethical considerations to include the ethics of use, safety, and efficacy of many CAM herbs utilized during NVP are limited. Also, enhanced scientific examination concerning their use in possible treatment options, and dosages are essential (Hwang et al., 2016). Such as ginger, zingiber officinale roscoe, is considered a CAM consumed food or purchased as an herbal supplement. In most countries, it is highly sought after as an approved popular non-pharmacological form of treatment for NVP. However, not recognized in all countries or recommended as consumption for pregnant women. According to Stanisiere and Lafay (2018), study findings are heterogeneous and not conclusive enough to permit all health care professionals to recommend ginger as an approved drug. Often herbs are

contraindicated, leaving pregnant women diagnosed with NVP with minimal options (Stanisiere & Lafay, 2018).

One-third of healthcare professionals offered recommended use of CAM to pregnant women. However, the majority of 69.2% indicated there is the value of using CAM during pregnancy. The documentation, ethics of use, safety, and efficacy of many CAM herbs utilized during NVP are limited. States regularly update regulations specific and scientific evaluations to their region about herbal products. As a result, few toxicological data reports published from studies on the impact of NVP are available (Kennedy et al., 2016; Stewart et al., 2014)

According to Pirincci (2017), education regarding CAM should be included in programs for healthcare professionals. According to HBM, the participants and their findings addressed beliefs about their perceived health and severity. Both factors played a significant role in determining health-related behaviors. Those two key factors affected the participants in this study diagnosed with NVP about their health behaviors. The previous literature indicated that it is essential to develop mainstream childbirth education programs for pregnant women about CAM to reduce NVP (Sullivan & McGuiness, 2015). The 47 preliminary codes and 24 categories identified eight themes that can be utilized to create an intervention program aligned with the HBM and study's findings to educate communities, clinical professionals, and parents to better understand NVP and how best to manage the behaviors. According to Sullivan and McGuiness (2015), childbirth educators must maintain current and informed about CAM and natural pain management. WHO reported over three quarters of the world’s population trust

CAM for health care use (Pirincci, 2017). This explains the increase in use of herbal remedies otherwise known as CAM (Stanisiere & Lafay, 2018). However, this pathway comes with recommendations that the use of CAM practices is scientifically examined with clear information about their effects to prevent harmful practices.

Using the HBM, to design programs that define the susceptibility for specific population at risk of NVP (See Table 1). Promoting online classes for NVP as a reminder for individuals to meet with trained childbirth educators was explored by pregnant women and was considered one of the cues to action that triggered a health behavior change. Another external cues to action were exhibited at a Social media group when women were listening to other mothers explain being admitted to a hospital because of a severe diagnosis of Hyperemesis Gravardium. A cue to action helped both individuals move forward from wanting to make a health change to actually- making the change to seek out experienced online childbirth educator groups using CAM options to self-educate treatment of NVP. Self-efficacy was later added as the sixth construct to the HBM in 1988. This construct looks at an individual's specific belief, measuring their ability to perform the recommended health-related behavior to make a confident health-related decision to change. The findings in this study reveals all twelve participants would participate in a self-education CAM-related program to reduce anxiety and NVP. This construct measures faith in an individual's ability to use Specific, Measurable, Attainable, Realistic, and Timely (S.M.A.R.T.) goal-setting techniques that would support verbal reinforcement. In Theme 5 participants share their personal challenges of having NVP and how they successfully overcame them.

Theme 5: Challenges of Having NVP

The participants revealed several challenges from having NVP. They noted that they had experienced barriers and challenges receiving treatment for NVP, and with using CAM as a remedy to reduce the symptoms. The participants described their barriers and challenges with terms such as money issues, knowledge of resources, finding CAM that worked for them, financial barriers of going to the hospital, traveling long distance to the hospital, lack of eating, the cost of CAM, and receiving outside support. In addition, four of the participants revealed that they had to make several trips to the hospital in order to treat NVP. CAM was used to alleviate severe symptoms drinking, herbal teas, garlic, to manage Hyperemsis Gravardium. In Theme six participants will describe and explain a variety of CAM offerings that were used to manage and treat their specific recovery from NVP. Participant 1, "expressed her perceptions about, financial barriers indicating. "The money thing was huge. The biggest barrier first time around having a baby is that things begin to build-up over time. Participant 2 indicated, "Food was my struggle during the first pregnancy." Participant 4 shared her barriers as, "Geographical location was a factor in an area that I did not know anyone". Participant 6 shared, "that the smell of food triggered my nausea". As such these negative aspects could hinder an individual from taking a health action that could result in harmful side effects (Glanz et al., 2015). Cues to action relates to the internal or external triggers of behaviors of change. Participant One, shared her barriers, commenting, "I met with people in Ann Arbor who training Acupressure and that is where I learned about C bands".

According to Glanz (2015), often there is a deficit in understanding the HBM however, cues to action relates to an appropriate recall or reminder of a specific behavior. Further, self-efficacy construct related to having the confidence level and competency to perform a behavior to achieve a specific a behavior resulting in using CAM therapies to alleviate NVP. Participant One mentioned, "I would recommend talking about NVP with a provider (as it relates to the symptoms) to use or not to use medication, B vitamins, Zofran and if I don't want to use CAM vitamins. I would ask is there something else that they can do. It is important that women understand that they do not have to suffer through it, to get some help and to talk to someone."

Evidence identified a central issue being the perceptions of pregnant women regarding CAM during NVP (Glanz et al., 2015). For the current study, the HBM provided the foundation for the theoretical framework for the process, explaining how working pregnant women experience their decision-making and relate to the daily challenges associated with pregnancy (Boslaugh, 2019; Rogers, 2016). The HBM is not a model for future use, it is the model used to guide this study and RQs. It is an appropriate model to provide the framework for understanding behavioral changes for expectant mothers to avoid illness and maintain their health alleviating pregnancy related symptoms (Boslaugh, 2019; Glanz et al., 2015; Rogers, 2016). The fundamental HBM includes perceived susceptibility, perceived severity, perceived benefits, and barriers engaging in a specific behavior, cues to action, and self-efficacy (Boslaugh, 2019; Glanz et al., 2015). The HBM provides the foundation for the theoretical framework for the process, explaining how working pregnant women experience decision-making and relate

to their daily challenges experiencing Nausea Vomiting of Pregnancy Quality of life (NVPQOL; Boslaugh, 2019; Rogers, 2016). Further, the aim of using all six HBM is to identify health-related behaviors that could guide and align the framework for the intervention of NVP (Glanz et al. 2015).

The study's findings indicated that participants feel that making behavioral changes can offset beliefs about barriers and challenge changing behaviors. However, the participants also stated that misinformation could result in danger, discomfort, and absence from participating in daily activities leading to social consequences (Glanz et al., 2015). In this study, the findings indicated that perceived barriers related to changing their health-behavior cost them time off work and financial obstacles. Changing health behaviors before experiencing NVP could potentially cut expenses, reduced the amount of time feeling discomfort, the danger of impacting the child's health. Preplanning can minimize the adverse outcomes for a family and reduce the effects of NVP. Perceived barriers were explained as possible obstacles that imposed a negative consequence resulting from taking-actions step (Glanz et al., 2015). In Theme, six participants will address various treatment types utilized to recover from nausea during early pregnancy.

Theme 6: Recovery From NVP

Participants revealed that they used different types of management/treatment to recover from NVP during their pregnancy. The participants described their management and treatment in their recovery from NVP such as certain herbs, therapy, candy, drinks, medicine, vitamins, eating light foods, snacks, medication, fluids, crackers, water, and different teas. Several of the participants revealed that they had to take different types of

herbs, vitamins, and medication at different times which mean that some worked for a while and they had to change to other types of CAM medicine in order to recover from NVP.

A large percentage of approximately 80-90% of women who are pregnant globally, also experience NVP. The findings pointed out that NVP or morning sickness ranges in spectrum from mild, moderate or severe in pathology to more self-debilitating and limiting disease called Hyperemesis Gravardium (HG) (Butos, et al., 2017; Colordro-Conde, 2017; Hass, 2016; Forbes, 2016). In this study the HBM provided the foundation for the theoretical framework for the process of explaining how pregnant women experience making decisions to reduce the risk of NVP relating to challenges during pregnancy (Boslaugh, 2019; Rogers, 2016).

Perceived susceptibility related to the participants overall belief and perceptions about their health about acquiring a health condition. Many of the participants gaged their health on the perceptions of their family members, and whether they would obtain a diagnosis of NVP or morning sickness. Participant One participant, " indicated, well my "Mom was surprised about my experience because she did not experience NVP. Neither did my Sister-in-law experience a harsh NVP experience either". Perceived benefits: related to individual's perception to reduce their beliefs or cure the illness. Participant two shared, "Although there was always a nice to have a support mechanism. There was a total of five people pregnant who worked together at one time. We were support for one another." All twelve women tried some form on CAM taking the necessary steps action steps when NVP was experienced (Glanz et al., 2015).

The HBM construct's primary importance is for individuals to understand that they can impact a higher level of prevention, reduce health risks, and change their behaviors to mitigate risks of NVP. Perceived susceptibility uses similar patterns as perceived benefits guiding individuals to make robust preventive indicators of healthy behaviors (Janz & Becker, 1984). The likelihood of changes will result in the individual's taking-action and changing behaviors. The findings found in the study complement the theoretical framework of the HBM.

Further, Parse's theory complements the findings found in the study and the HBM, indicating that a human is considered a being of his own will and that health was more of a way of life (Papathanasious et al., 2013, Parse, 1981). Besides, understanding the theoretical foundation of nursing and Florence Nightingale's era adopted a holistic model and multidimensional approach that was similarly incorporating the four CAM domains. The importance of touch, light, scents, music, and silent reflection during the therapeutic process ushered in a distinct way of viewing health. Also, Christianity championed the thought of the body as a temple (Marks, 2011; Stanley, 2007). The HBM provided a more profound understanding of perceived susceptibility and perceived severity of a person's health, healing and laid the foundation for individuals to understand they have free will to create their destiny to change behaviors.

In 1946, the WHO defined health as "the state of complete physical, social, and spiritual well-being, not simply the absence of illness. "A current version more in alignment with HBM states, "Health is a state of mind with physical, cultural, psychosocial, economic, spiritual underpinnings, not only the absence of Disease"

(Blackett, 2021). However, the two definitions suggest far more than the absence of disease using CAM. It is known that cultural, economic, and psychological processes combined resolve health (Marks et al., 2011). The HBM mentions psychosocial influences, various human experiences, and behaviors that mildly and severely impact health and illness.

The current CAM categories included mind-body medicine, which bridged the mind's ability to impact the body's function and ignite parasympathetic and sympathetic states of relaxation using sound, art, music, dance, and breathing (Healy, 2017). The biologically based practices in CAM utilized matter found in nature, such as herbs, food, and over-the-counter medicines, were also used as dietary supplements and herbal remedies and medicines (Healy, 2017). Manipulative and body-based techniques worked to restore an individual's health with chiropractic medicine. Manual manipulation integrated postures to provide discipline to the body using massage increased the state of well-being (Healy, 2017). Energy Medicine balanced the energetic fields such as Chinese Therapy, Qi-Gong, and Reiki, being attuned to a universal flow by placing hands on or near a person to ignite the universal flow of energy. The goal of the therapies used in this study was to bring balance and to encourage healthier lifestyles with NVP (Healy, 2017; Hwang, 2016; NCCAM, 2016).

Theme 7: Understanding the use of CAM

Participants reported that they had to understand the use of CAM in helping them to reduce the feelings of being sick with nausea and vomiting during pregnancy. The participants described their knowledge and understanding of the use of CAM with such

terms as alternative medicines, used to relax, use yoga techniques, psychotherapy, medications, meditation, prayers, deep breathing techniques, walking to relieve tension, light eating, ice pops, western medicine using acupressure eating certain candy, using herbs, and alternative options instead of taking traditional medicine. CAM has become widespread in the US, women between the ages of 18 and 49 have reported using CAM in the last 12 months. This study's findings indicated a need for CAM to become a part of the mainstream childbirth educator's programs (Sullivan & McGuiness, 2015). In the next paragraph reports indicate the use of CAM in the United States reported by healthcare professionals along with the impact of use of CAM to pregnant women.

In the United States, reports indicated that more than one-third of the population has used CAM methods (Frawley et al., 2015; Holden et al., 2015; Hwang et al., 2016; Sullivan & McGuiness, 2015). One-third of healthcare professionals have reported that they are willing to recommend the use of CAM to pregnant women, with those majority (60.2%) agreeing that there was some value in CAM used during pregnancy (Stanisuere & Lafay, 2018). This leaves the safety of CAM as a key concern, considering that the safety and efficacy of CAM used during pregnancy is limited. Whereas most states update and regularly document regulations related to herbal substances, products, and CAM according to the most recent scientific assessments (Stanisuere & Lafay, 2018). However, there is little toxicological data coming from studies on pregnant women currently available (Stanisuere & Lafay, 2018).

Theme 8: Health Status Changed

All of the participants noted some benefits of using CAM medication for their care and their health status changed during their pregnancy. Participant One shared, " I wanted to have a natural pregnancy as much as possible, natural pregnancy and birth, yes this influenced her decision to use acupuncture which helped. Participant five, Indicated, "Preggy popps" they are also known as nausea popsicles. It helped me immensely. CAM, Ginger, "It is better than medicine. Although, it does not discount medicine. I also believe that our bodies can heal itself naturally. Medicine is available to help if needed but not always the first choice. "I used Chiropractic, Ginger, Prayer, Psychotherapy, Hypnosis, self- hypnosis, Meditation, Yoga".

Further, the participants described the influence of the CAM medication on their health status with terms such as the medication works, CAM works, medication and acupuncture works, snacks curved some of my nausea, CAM remedies lessened my symptoms, alternative medicine was benefitable, helped me to relax, essential oils worked, B6 worked for me, drinking herbs worked for me, yoga helped me, it lessened my pain, and ginger worked for me. In the next paragraph the National Center for Complementary and Alternative Medicine (NCCAM) explains CAM methods and practices preventing disease.

National Center for Complementary and Alternative Medicine (NCCAM) classified CAM methods under the following categories: mind-body medicines, biologically based practices, manipulative and body-based practices, energy therapies, and whole medical systems include homeopathic medicine and naturopathic medicine.

The topic CAM practices utilized were Chiropractic Therapy, Psychotherapy, Hypnosis, Self-Hypnosis, Meditation, Yoga and Herbal teas. All four of the following CAM modalities Categories: mind-body medicines, biologically based practices, manipulative and body-based practices, energy therapies, and whole medical systems such as homeopathic and naturopathic medicine were used regularly by participants and experienced excellent results to minimize risk of NVP. CAM incorporates a variety of practices with the intention of preventing or treating disease by way of promoting health, wellness, and teaching individual's self-care practices that can enhance a pregnant woman's quality of life (Argenbright, 2015; Balouchi et al., 2018; Healey, 2017; Mitchell, 2016; Mobarakabadi et al., 2020; Revell, 2017; Sullivan & McGuiness, 2015).

Use of CAM has become widely utilized worldwide by pregnant women to include herbal remedies (ginger, chamomile, peppermint, raspberry leaf, garlic tea, and Tumeric). Homeopathic remedies were used, such as (Nux vomica, Pulsatilla), and acupressure, Accu-stimulation, and the use of C Bands to prevent moderate, mild, and more severe cases of NVP. Ginger has been consistently used and is known as one of the non-pharmacologic interventions recommended by the American College of Obstetrics and Gynecology (ACOG, 2004; Pallivalappila et al., 2014; Sullivan & McGuiness, 2015). Another study revealed a global movement toward using CAM as a more natural approach for childbirth educators informing pregnant women about diminishing pain management and identifying safer treatment options. In this study CAM identified fewer side effects, providing several similarities to the current research findings showing the perceptions of NVP, diminishing pain, and promoting CAM health and wellness when

grounded with the HBM practices are effective. CAM therapies have taken on a variety of forms to include acupuncture, acupressure, art therapy, chiropractic, hypnosis, massage, relaxation techniques, therapeutic touch – Reiki, Yoga, music therapy, vitamins, and herbal supplements (Goldas, 2012; Marks et al., 2011; Sullivan & McGuiness, 2015). The next paragraph summarizes the Participant Qualifying Criteria Survey that was given to all 12 participants and its impact of CAM during NVP.

The Participant Qualifying Criteria Survey was given to all 12 participants to complete before the day the interview sessions began. I answered all their questions to better understand the how it will be used in the study, and how CAM could be utilized to alleviate pain and discomfort of NVP. All twelve participants completed the survey questions quickly. While all the participants were aware of and understood Complementary Alternative Medicine as an alternative means to minimize or alleviate NVP, there were three of the twelve participants that did not make the correlation that Deep Breathing, Acupuncture, Multivitamins Pyridoxine B6 were considered a CAM modality and did not check them while completing the chart. However, when individually interviewing with the applicants I brought it to their attention that deep breathing, acupuncture, and Multivitamins Pyridoxine B6, Prayer was considered a CAM remedy and used as a therapy. This awareness brought to light that women need additional education on what is considered a CAM remedy used to alleviate NVP.

The HBM incorporates a variety of components that can forecast why people take-action, avoid, or manage their health (Glanz et al., 2015). When people adapt to the perceived benefits, these changes are viewed as positive results. An individual's beliefs

will flow from the primary components (or constructs), including the likelihood of reducing the risk of NVP. In general, higher perceived benefits make an individual more likely to take-action (Boslaugh, 2019). The HBM is instrumental in developing interventions that can predict and change health-related behaviors (Glanz et al., 2015).

According to the results of the survey the top CAM therapies, remedies, herbal mixtures, and non-pharmacologic treatments used were considered mind-body practices, and interventions. Other interventions that could fall under this category is relaxation techniques, guided meditation, yoga, hypnosis, and self-hypnosis. In addition, deep breathing providing stress reduction and progressive muscle relaxation support relaxation as well (Sullivan & McGuiness 2015). The next grouping, homeopathic remedies next were derived from natural substances such as herbs, minerals and they stimulate the state of balance in an individual's body. Acupuncture involved the insertion of needles to cope with discomfort and relax emotionally. While Acupressure is often utilized activating the acupressure points with C Bands that is used with the arms and wrists. (Allais; 2019; Ghule, 2020). Further, massage a manual healing method were identified by all the participants to manipulate soft tissues in the body to relax tension that is found in their muscles (Sullivan & McGuiness 2015). Aromatherapy and Music Therapy, otherwise known as Audio analgesia activated the effective use of sound were experienced by all twelve participants.

Nonpharmacological Treatments

All 12 participants used Herbal Teas as supplements to alleviate NVP. Participant 4 described, "Using alternative medicine, the entire time during the first pregnancy for

the entire 11 weeks." Chiropractic services were used during the 1st 2nd and 3rd trimester". Participant 5 indicated I used a variety of Nonpharmacological Treatments to Alleviate NVP. Yes, acupressure helped cure NVP, but it also helped to keep me calm, relaxed, and to reduce anxiety that can create nausea. It was really important to stay calm. I started googling and found information on C Bands, for Acupressure points".

Herbal Mixtures

Participant 3 indicated, "The peppermint rated up there pretty high. I also used Mint oil. I used Altoids candies and Peppermint which were also helpful.

Participant 5 shared that herbal teas, such as garlic, helped manage Hyperemsis Gravardium".Ginger moderately helped. Third trimester vomiting was 99. 5 over".

Participant 12 mentioned, "The various things I tried were multiple types of herbal teas on the list: Chamomile, green, peppermint and raspberry. Teas were the most helpful. I think that the most important thing is to have options, whether it is drinking teas and taking other treatments and just being able to make decisions that they will have the information and the kind of effect you want to have on the baby and yourselves".

CAM as a Modality

Participant 5, "indicated, that I used Relaxation Techniques as a Therapy throughout my entire pregnant. Participant 4 pointed out:

> Prayer has always been used in her whole life. It is better than medicine. Although, it does not discount medicine. I also believe that our bodies can heal itself naturally. Medicine is available to help if needed but not always the first choice. I used Rescue Remedy drops by Dr. Bach of Bach Flowers placed onto

> the bed sheets. Prayers helped her during birthing and gave her comfort and puts things into prospective that things were going to be ok. Praying, helped me calm down the body. The nausea and fear built up and calmed me down inside as well as outside. Calm and all knowing. I also used calming affirmations. I practiced Yoga religiously. I practiced Yoga daily before pregnant beyond just that it strengthens and tones the body. It became a vital way that I started my life and my day. Diffusing an oil helped me without hesitation, and I would use those CAM remedies again.

Participant 6 shared, "Everything she did during the day helped. I needed time to do self-hypnosis or reiki a 45–50-minute session for relaxation. I could have integrated more self-care and less responsibilities in my life". Participant 8 stated. "Deep breathing was CAM. But I looked at it was an instinctive as was breathing. I did not look it up or consider it a CAM remedy." Participant 10 noted, "Yoga and helped me to keep my food down."

Limitations of the Study

According to Yin (2018), there are some limitations to utilizing case study methodology. Multiple-case study designs have distinct advantages, and there are disadvantages to a single case study design. The results and evidence from multiple cases are often more robust (Yin, 2018). The multiple-case study requires extensive depth and breadth of resources and an investment of time that should not be taken lightly throughout the research. When selecting multiple cases, researchers will raise a new set of questions that target how and what that is to follow a sampling design (Yin, 2018).

Possible weaknesses in the study could include identify an inadequate number of participant's enrolled to obtain saturation due to COVID-19 virus.

A limitation in this study was the geographic location in the state of Michigan, where the study took place included the perceptions for women and the potential use of CAM modalities to treat NVP symptoms, and how the decision-making process occurred for them in making a decision to or not to pursue its use. The perceptions of women in other states in the United States could have produced different findings because the women in other states might have different perceptions and experiences the potential use of CAM modalities to treat NVP symptoms, and how the decision-making process occurred for them in making a decision to or not to pursue its use.

Another limitation of this study was my ability to observe the body language of the participants due to the modification of the interview to include the telephone. In accordance with the IRB directions due to the COVID-19 virus pandemic, interviews were changed from face-to-face meetings to telephone. The open-ended interview questions were written to allow the participants a chance to provide their thoughts, beliefs, and perceptions in their own words (Creswell, 2017). Recruiting the participants and analyzing the data took place continuously to ensure that all the data collection, concepts, and theory were well developed (Lewis-Beck, 2004). To mitigate the limitations of conducting interviews by telephone, I confirmed the accuracy of the interview data by conducting member checking. Member checking is used by researchers to support the credibility of the data and ensuring the accuracy of the data collected from the participants (Creswell, 2017). I conducted member checking by sending the

transcribed data to each participant to ensure that all data collected from the participants were accurate.

According to Glanz et al. (2015), a tailored intervention that utilizes the HBM constructs is useful in changing health behaviors. Using the HBM suggests that individuals learn about a health issue, learn to care about it, and eventually act upon the idea that creates unstoppable positive social change (Doig & Muller, 2011). Participants must understand their values. Igniting the interest is where their high-level action steps come from to achieve unstoppable positive social change (Doig & Muller, 2011).

Fundamental constructs of the HBM include perceived *susceptibility,* perceived *severity,* perceived *benefits,* and *barriers* engaging in a specific behavior, cues to action, and *self-efficacy* (Boslaugh, 2019; Glanz et al., 2015). The six HBM core constructs provide clear interpretation to the understanding of Perceptions of NVP using CAM, of this study. Perceived Susceptibility relates to the likelihood of getting a disease or condition, in this case, NVP. Thus, HBM predicts that individuals who perceive that they are susceptible to NVP will engage in behaviors that would help reduce the risk of developing the disease (Champion & Skinner, 2008). Perceived severity relates to the seriousness of NVP, and it varies from individual to individual. Individuals often base their beliefs on medical knowledge obtained from their medical practitioner or information gathered throughout their lives or family members. Or from their perception found in one's lifestyle. For example, loss of work due to NVP, financial difficulties, inability to function due to NVP, and experiencing pain or discomfort could influence one's perception of the illness's seriousness or severity (Aris, 2016). In this study,

pregnant women's health and risk behaviors include the use of CAM modalities to reduce the number of health-related challenges and stress, which can increase the determinant for an individual's health and well-being status (Glanz et al., 2015; Papadopoulou et al., 2014).

Perceived Benefits relate to an individual's assessment of the value or efficacy or value of being involved in promoting a health-promoting behavior to decrease the risk of NVP. HBM proposes that the more benefits an individual perceive that a particular action will have regarding a perceived threat of NVP, the more likely they will prevent that behavior regardless of the objective facts regarding the action's effectiveness (Champion & Skinner, 2008). In this study, perceived benefits indicate that promoting the behavior to decrease the risk of NVP begins by increasing the knowledge of CAM and its practices.

Perceived Barriers relate to potential complications involved with a particular health action. In this case, NVP during pregnancy using CAM suggests that the perceived benefits must outweigh the perceived barriers for behavior change to occur (Champion & Skinner, 2008). This study shed light on perceived barriers on the perceptions of NVP that could positively affect emotional wellness when using CAM to diminishes external stress.

Self-efficacy relates to an individual's perception of his or her competence to perform a behavior successfully. An individual's beliefs surrounding their self-efficacy levels and using CAM to alleviate NVP can positively impact how they feel, think, and motivate themselves. The best practices reveal continued results and diminished

outcomes of signs and symptoms of NVP. This information can lead to significant contrasts in behavior between individuals with differing levels of self-efficacy. Those with a solid or high sense of self-efficacy believe in their capability deeply, seeing challenges as tasks to be managed rather than threats to be avoided (Bandura, 1977; Glanz et al., 2015).

Further, HBM recognizes that confidence in the individual's ability to affect change in outcomes is crucial to health behavior change (Champion & Skinner, 2008). Cues to Action relates to the internal or external cues that prompt the action. HBM theorizes that a Cue to action, or trigger, is necessary to promote the engagement in health promoting healthy behaviors, possibly by attending a Mom to Mom pregnancy support group and learning about Acupressure C Bands and their usefulness (Champion & Skinner, 2008). The next paragraph outlines the final limitations for this study.

A final limitation for this study was that only White females volunteered to participate in the study. By interviewing only White women limited the perceptions and views of other races and ethnic women from other backgrounds. This limited sample group prevented the researcher from understanding the perceptions of other minority women in groups across the state of Michigan.

Implications for Positive Social Change

There is a potential to create positive social change from the findings in this study for pregnant women, their knowledge of NVP, integrating CAM remedies, and managing treatment for NVP during pregnancy. The research findings demonstrated how pregnant women managed their health care needs and provided for their unborn child during NVP

and best practices of using CAM. Best Practices of CAM shared all 12 participants information and will be designed as a one-page double sided leaflet. Outlining CAM remedies on side and the action steps to take according to the perceived susceptibility and perceived severity, and cues to action.

Participant One

- Acupuncture
- Aromatherapy
- Grapefruit
- Garlic root
- Multi-vitamin B6
- Homeopathic remedies
- Meditation
- Mint Oil
- Raspberry leaf
- Tumeric
- Yoga

Participant 2

- Chiropractic
- Ginger
- Homeopathic remedies
- Prayer
- Raspberry leaf tea

- Rescue Remedy
- Yoga 3rd trimester

Participant 3

- Acupressure – C Bands
- Ginger
- Multivitamin B 6
- Mint Oil
- Raspberry leaf tea
- Relaxation

Participant 4

- Chiropractic
- Ginger
- Prayer
- Psychotherapy
- Hypnosis (hypnobirthing, calm birthing)
- Self-hypnosis
- Meditation
- Yoga

Participant 5

- Accupressure
- Aromatherapy
- Chiropractic

- Chamomile Tea
- Peppermint tea
- Raspberry
- Rosehip
- Ginger
- Evening Primose Oil
- Music Therapy
- Relaxation
- Homeopathic
- Imagery
- Reiki Therapeutic touch
- Reflexology
- Yoga

Participant 6

- Multivitamin B6
- Tumeric

Participant 7

- B6
- Unisome

Participant 8

- Deep breathing
- Relaxation Therapy

Participant 9

- Acupuncture
- Chamomile Teas

Participant 10

- Acupuncture
- Aroma Therapy Essential Oils
- Multi-Vitamin B 6
- Raspberry Leaf Tea
- Yoga

Participant 11

- Multi vitamin B 6
- Peppermint Tea
- Yoga

Participant 12

- Teas were the most helpful
- Chiropractic/Osteopathy
- Chamomile Tea
- Evening Primrose Oil
- Green tea
- Peppermint tea
- Raspberry Leaf/Tablet tea,
- Relaxation Therapy

Best practices of combined knowledge and education minimize signs and symptoms of NVP and were created as self-care activities by pregnant women to manage their NVP utilizing CAM. These symptoms occur during the first three months or the first trimester. There are a variety of health-related best practices and tasks that are available to mitigate risks, and symptoms of NVP (Revell, 2017). Refer to this checklist of proposed top ten methods and activities to determine the perceived stage of threat or risk (mild, moderate, or severe) to evaluate the NVP condition. Review this fact sheet indicating what best-case practice to utilize and to incorporate daily.

1. Increase rest to produce physiological and psychological level of stress as this could provoke nausea and vomiting episodes.
2. Within 24 hours make a behavioral change to determine if an individual's fluids or food stays down.
3. Call your primary care practitioner to address:

   Actions that could include symptoms of dizziness and lightheadedness, dark urine or the inability to keep down prescribed medications.
4. Increase rest and relaxation.
5. Ingest small amounts of fluids, water, and pediatric electrolytes might be helpful.
6. Consume numerous small meals of bland food items to reduce hunger and to enhance nutritional content.
7. Reduce the amount of less spicy food meal suggestions.
8. Replace cold prepared food with hot meals as a way to diminish NVP.

9. Awaken early 20-30 minutes to consume crackers or bland carbohydrate to give body a chance to adjust the body to daily activities to start the day.
10. Begin your day by breathing deeply and taking time to get out of bed. Incorporate self-care treatment based on the severity of the nausea and its various stages.

The results can conceivably help first-time pregnant women establish new methods, which could consist of purchasing a wide variety of herbal teas, incorporating a new set of rules including deep breathing techniques when awakening in the morning such, and slowly exiting from the bed to minimize dizziness and meal plan recommendations to benefit individuals providing strength throughout the day (Revell, 2017). The findings could contribute to new policies and strategies for women seeking information on the topic of NVP.

Many mothers discussed the pressure they felt to manage and treat themselves during the day, while experiencing nausea and vomiting. Stress and nutrition during early pregnancy plays a vital role in the normal fetal development of the unborn. It can also constrain proper organ development when there is inadequate nutrient intake during early pregnancy (Ogawa et al., 2017). There is evidence that unbalanced nutritional intake during the perinatal period could show in the unborn lives later in life, such as iodine deficiency, low child intelligence, and overall low malnutrition and obesity in adulthood (Ogawa et al., 2017). The pressures from NVP continue to impact mothers as the percentage of pregnant women with NVP continues to rise. Pregnancy sickness is widespread and affects more than 97% of women causing food aversions (Forbes, 2017;

Ogawa et al., 2017). The current study addressed the participants' perceptions and their heightened awareness to improve severe nausea during the day. As a result, the training is designed for clinicians who could benefit from attending specialized training in health education.

Training Topics

1. Module 1: Introduction to history of Complementary Alternative Medicine (CAM) and NVP.
2. Module 2: Introduction to NVP practices its relationship to HBM (health related behaviors), and the prevention and using CAM.
3. Module 3: Identification of ways to bridge relationships with practitioners and their patients to help improvement of pregnant women who experience NVP using CAM.
4. Module 4: How to utilize HBM/behavior outcomes to understand and encourage individual's growth and mitigate NVP using CAM.
5. Module 5: and identification of up to five best practices of CAM therapies, and its categories to mitigate NVP.
6. Module 6: Review and examine transcripts of women's interviews who experienced NVP to mitigate their specific health problems during NVP.
7. Module 7: Review of Interview Survey data findings – Case studies Q & A: The Demographic Survey, The Survey Plan Qualifying Criteria (SPQC) defining CAM and the HBM.

8. Module 8: The relationship of the HBM, NVP, CAM and what motivated positive health behavioral changes.

Explanation about the module outline of topics**:** The inquiry findings compiled from various sources, such as formative research using survey, interview, group data, and qualitative and quantitative analyses, provided a summary of topics to be addressed with clinical professionals (Patton, 2015). This process seeks to be more inclusive when examining and integrating these multiple pieces of evidence as sources to draw definitive conclusions about the evidence base for a particular outline of topics to provide a rationale and ideas for future research endeavors. (Bishop, 2019; Tones, 2000). CAM practices, practitioners, and licensed health-care workers could use help improve patients' health behavior and have potentially significant implications for public health and preventive medicine initiatives; regarding the topic of NVP prevention. These topics and information warrant's further research attention.

It is essential to encourage other health care providers, health educators, and the public to work collaboratively to disseminate NVP education as a safeguard for the mother and unborn child's health. It is essential to influence local, state, and federal policy on third-party coverage on the management and treatment options of NVP. Of great importance is to create NVP literature such as tip-booklets for local and state-wide dissemination for health care clinics to educate, increase the knowledge of NVP for the lay person to understand more about NVP and various advanced stages leading up to hyperemesis gravidarum. I pointed out that there is a dire need to develop preventive measures for mothers to alleviate and prevent symptoms from worsening by providing

ongoing health education programs for parents to discuss the details of NVP in the neighboring Detroit metropolitan areas.

The focus is on introducing the parents to short and long-term health forums to learn NVP survival techniques for tomorrow's unborn child. The deployment of rich data collection provided the opportunity for further research on Nausea and Vomiting's topic using CAM. This study may also serve as a positive catalyst for societal change by highlighting the health behaviors associated with HBM based in part on the information shared in the data collection.

A key contribution for this study is to provide an application model which could be used to develop improved interventions for NVP among pregnant women. The aim of using all six HBM is to identify health-related behaviors that could guide and align the framework for the intervention of NVP (Glanz et al. 2015). According to Glanz et al. (2015), the value of health-related behaviors is to avoid illness to maintain and stay well**.** The HBM is an appropriate model as it provides a framework for understanding behavioral changes for expectant mothers who seek treatment for alleviating pregnancy-related symptoms of NVP (Boslaugh, 2019; Glanz et al., 2015; Rogers, 2016).

There is a potentiality to create positive social change from the information found in this qualitative case study design on NVP for women who are between the ages of 19-30 to include:

1. Contribution to the limited current information about the case study design of young women ages 19-30 with NVP regarding health behavior; impact of NVP on the physical, social, and psychological life; challenges in

diagnosis and management/treatment of the health concern; impact on the decision-making process in NVP individuals private and professional life.

2. Influence of the development of health care and public health practitioner's professional development programs to assist individuals who are diagnosed with NVP, their family members, and community at large where they live, such as counseling who are literate on the topic on the topic of NVP.
3. Enhance and heighten the awareness of NVP in Michigan, and how misdiagnosed, and mistreatment could lead to NVP or even greater, Hyperemesis Gravardium.
4. Influence providers and the public to work collaboratively to educate individual women on the proper nutritional daily nutrients and safeguard their meal consumption.
5. Influence local, state, and federal policy on third-party coverage on the diagnosis and treatment options of NVP. Currently health care providers offer stress management coverage for counseling, diagnostic tests, as an option to treat stress impacting and leading up to NVP potentially without medication.
6. Development of prevention measures and dissemination of CAM Measures and dissemination of such measures to an audience where NVP have been and neighboring areas throughout Michigan.

7. Generation of rich data collection offers the opportunity for continued research on CAM, and NVP, describing the proper diagnosis and effective management and treatment.
8. This qualitative case study design may also serve as a positive catalyst for societal change by promoting the perceptions of the qualitative case study design on NVP.
9. Lastly, it is my deepest desire to see this study address the global concerns by converting this case study design into multiple languages in nature and scope of NVP in the U.S. and abroad.

According to the literature review results found in Chapter 2, NVP impacted more than 96% of all women globally. However, it is necessary to expand the knowledge on the perceptions of NVP using CAM. The current study highlighted the knowledge of participant's NVP experiences about their condition and the specific use of CAM (Bowman et al., 2018; Johnson et al., 2016; Koc et al., 2017; Shawahna & Taha, 2017). Presentations could occur to specific target audiences at State associations of multiple counties, and city health officials, state Health Offices, Hospital associations, Public health associations, Mom to Mom groups, Universities, and charitable foundations, Federal agencies, Community groups, Faith-based organizations, State and county extension offices, Schools, Local government, Health care providers/centers, professional conferences, local public health agencies, medical clinics, professional conferences, and peer-reviewed journals. Other available options to share these study findings are at the Nausea Vomiting and Pregnancy group meetings, March of Dimes annual meetings,

Annual Doula Meetings, Association for Prenatal & Perinatal Psychology & Health (APPPAH) in the United States, the United Nations, local public health agencies, medical clinics, professional conferences, and peer-reviewed journals. Further research should focus on the nature and scope of NVP perceptions using CAM in the U.S. and abroad.

Recommendations for Future Research

Methodological implications of the research include the need to consider race, socio-economic status, and demographics. The sample population for this study was racially homogenous which limited the perceptions of other racial groups. Future research should be conducted to include the perceptions of women in other racial and demographic groups to improve the understanding of perceptions of experiences related to women who have experienced NVP ages 19-30. This research could also help in gaining insight into perceptions for women and the potential use of CAM modalities to treat NVP symptoms, and how the decision-making process occurred for them in making a decision, to, or not to pursue its use.

The current research study targeted women between the ages of 19 to 30 years of age. The current research highlighted populations of pregnant women who have experienced using CAM and attempted to alleviate stress associated to NVP. Research should be conducted with women from different education levels and backgrounds. There were 12 participants who gave birth to their first child later in life, being married living in dual income household, working in a professional setting earning upwards of $50,000 or more, having earned higher levels of education between the ages of 25-30 (Bayisa et al., 2014; Birdee et al., Frawley et al., 2015; Hall, 2014; Pallivalappila et al., 2015; Heitmann

et al., 2015). The participant findings indicated that that perceptions of the CAM methods were safe, strengthened their immune system, improved control over their bodies and were more natural than using clinical methods (Frawley, et al., 2016). Pregnant women who consciously seek to advance their QOL using CAM may be able to alleviate long lasting economic burdens, health related risk associated with NVP, and alleviate adverse fetal outcomes to their unborn (Argenbright, 2017; Birdee et al., 2014; Davis, & Yeh, 2014; Frawley et al., 2015; Gardiner et al., 2015; Holden et al., n.d.).

The current study has important social and public health education significance. The cultural and clinical perception that NVP is a common occurrence may skew how women feel. They must be able to cope with this challenge (Bowman et al., 2018; Johnson et al., 2016; Koc et al., 2017; Shawahna & Taha, 2017). The current study provided an opportunity for participants who wish to engage and share their experiences with NVP, their symptoms, their perceptions of CAM, and their decision-making process. According to Brown (2016), the etiology of NVP is still unknown. However, there are a variety of theories addressing psychological pre-disposition, and hormonal stimulus found during pregnancy. Beyond empowering current participants, the study lays the framework for understanding childbirth educators, on how individuals decide to use, or not use CAM modalities and how they ensure any treatments they choose are safe. Public health educators may gain valuable information in designing tailored, community based. There is a need for more culturally sensitive intervention programs, promoting positive social change values and establishing an appropriate dialogue about CAM therapies (Massey, 2015; Xinyin, 2015).

Future research should be conducted to include women in other age groups on their perception and experiences of coping with NVP and its symptoms and the potential use of CAM modalities to treat NVP symptoms. This research could be used to help women in other age groups to develop strategies to overcome the bad effects of NVP during their pregnancy. This research can yield research-based factors influenced the decision-making process of deciding how to treat NVP symptoms, specifically when related to using a CAM modality, or not, among a sample of women. This study showed inequalities in women's perceptions based on their ability to work and purchase CAM. Other homogenous studies focusing on different racial groups but employing a qualitative design could buttress this study's results. Older targeting women may have different effects than what was identified in this study.

Conclusions

The purpose of this multiple case qualitative research is to improve the understanding of perceptions of experiences related to women who have experienced NVP ages 19-30, gain insight into perceptions for women and the potential use of CAM modalities to treat NVP symptoms, and how the decision-making process occurred for them in making a decision, to, or not to pursue its use. This study applied a participatory framework of the HBM to better understand the perceptions of the community under investigation from the view of the members themselves (Glanz et al., 2015). The HBM contains core constructs that are generated from social and behavioral sciences that provide health practitioners an opportunity to evaluate and access specific health problems (Boslaugh, 2008; Glanz et al., 2015).

The data analysis revealed 47 codes, 24 primary and secondary codes ,and eight themes based of the different perceptions and experiences of the participants. These included: signs/symptoms, moderate and severe problems with NVP, supportive, self-education, challenges of having NVP, recovery from NVP, understanding the use of CAM, and health status changed. The results of the analysis revealed that all of the participants noted various signs of NVP during their pregnancy. Some described their signs and symptoms as feeling sick all the time during their pregnancy and they did not like the smell of food. Some of the participants noted that just the smell of food made them sick. Several of the participants revealed that they lost weight due to the lack of eating and some had to go to the hospital due to being sick. The findings from this study revealed that the participants expressed that their problems with NVP ranged from moderate to severe. One of the participants offered very short answers to this question. These symptoms impacted their everyday life with working and just making it through their daily lives. Some of the participants noted that problems were severe, and they were sick most days during their pregnancy.

The findings of the study revealed that the participants received supportive help from their family and friends. The participants described the support they received as helpful and tried to help them overcome their issues with NVP. Several of the participants reported that their family or friends provided them medicine for nausea and vomiting issues and was there when they had to go to the hospital. The results of the study revealed that all the participants reported that they had to educate themselves about NVP and ways to treat it. Some participants reported that they did not know about NVP

and learned about NVP through Google and the internet. The participants also said that they had little to no knowledge about NVP before experiencing it for themselves. They described their education and knowledge in terms such as little knowledge, talked to a friend, talk to a family member about NVP, education from the doctor, attended a class on NVP, and the internet, and Google the term.

The participants revealed several challenges from having NVP. They noted that they had experienced barriers and challenges receiving treatment for NVP, and with using CAM as a remedy to reduce the symptoms. The participants described their barriers and challenges with terms such as money issues, knowledge of resources, finding CAM that worked for them, financial barriers of going to the hospital, traveling long distance to the hospital, lack of eating, the cost of CAM, and receiving outside support.

The results of the study revealed that the participants reported that they had an understanding of the use of CAM in helping them to reduce the feeling of being sick with nausea and vomiting during pregnancy. The participants described their knowledge and understanding of the use of CAM with such terms as alternative medicines, used to relax, use yoga techniques, psychotherapy, medications, deep breathing techniques, walking to relieve tension, light eating, western medicine using acupressure eating certain candy, vegetable juices, using herbs, and alternative options instead of taking traditional medicine.

The current study has important social and public health education significance. The cultural and clinical perception that NVP is a common occurrence may skew how women feel, and they must cope with this challenge. This study provided an opportunity for participants who wish to engage and share their experiences with NVP, symptoms,

perceptions of CAM, and decision-making process. The participants identified pregnancy sickness as widespread through- out their term of pregnancy. However, its etiology is still poorly understood (Forbes, 2016). Embryo quality is protected by measuring daily diet consumption of micronutrients – such as iodine which is essential to neuromotor development. For a vast number of humans in evolutionary history, iodine deficiency is the most common source of cognitive impairment globally. However, food aversions were commonly associated with pregnancy discomfort to meat, dairy, and various kinds of seafood which are also related to iodine's primary dietary sources (Forbes, 2016).

Nutrition during early pregnancy played an essential role in the early stages of pregnancy for most of the women who participated in the current study. Normal fetal-development can impact an off-springs short and long-term health. Creating an educational program for new mothers on the importance of what proactive measures one can take to identify, minimize, eliminate, and take control of their diet/food related stress during pregnancy is essential. By implementing a Food Frequency Questionnaire Program (FFQP) as a part of a community involvement to educate new mothers on how to measure and to alter food preferences as a part of the early stages of pregnancy could eliminate specific food groups and prevent pregnancy without nausea and vomiting (Ogawa, 2017). There is a potential to create positive social change from the findings found in this study to significantly impact pregnant women, their knowledge of NVP, integrating CAM remedies, and managing treatment for NVP during pregnancy, based on various levels of society and culture.

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Appendix A: Interview Guide

Participant No:

Interview Guide

1. How did you know you were susceptible to NVP? Please describe.
2. How would you describe your experience having NVP when you were pregnant? Give some examples of times it affected you.
3. What was your perceived severity of NVP? Would you have called it mild, moderate, or severe? Explain
4. How did your friends and family react to your experiences with NVP? Use examples.
5. What did you know about NVP prior to becoming pregnant?
6. What did you do to educate yourself on the topic of NVP?
7. What barriers did you experience addressing your NVP and did that impact your ability to manage NVP effectively?
8. What are some of the various things you tried when you were experiencing the symptoms of NVP to feel better? Be specific.
9. Now, DEFINE CAM- then ask CAM questions.
10. What is your perception of CAM to address NVP?
11. Have you specifically used any of the CAM methods (from form F) to address NVP during your pregnancy? If so- (ask 13-15)---

12. How many of the CAM modalities of the ones from form F did you use to address NVP?
13. Did you perceive any specific benefits to using CAM for your NVP? Can you name any?
14. How much time did it take to administer CAM during the day? Did it affect your work or your responsibilities? Please describe.
15. Can you describe the perceptions of your friends and family members concerning CAM?
16. Can you describe the perceptions of your doctor concerning CAM?
17. So, thinking about all of these things, your NVP, your strategies to address it, the barriers, and what worked, or didn't work- what would you say most influenced your decisions in how you tried to treat your NVP symptoms?
18. Can you describe what you think is most important for pregnant mothers in helping them make the best-informed choices for dealing with NVP and finding good treatment?

Appendix B: Research Instrument Questionnaire

Interviewer's Script

Hello, how are you today? My name is Debra Blackett, and I am exploring the topic of Nausea and Vomiting during pregnancy (NVP) for the reproductive age group of 19-30 years of age within one year of giving a woman giving birth. This investigation is an essential part of my doctoral studies to find out about women's perceptions and what women know about nausea vomiting during pregnancy. My long-term goals are to help provide insight for health educators and provide health education programs to safely mitigate NVP and to create a safe environment for women and their children. I will be using an 18-question in-depth interview questionnaire aligned with the health belief model to ask you about your experiences and beliefs. The survey could range from 30 to 60 minutes depending on how much information you want to share with me. According to the criteria you were identified to participate in this study. The interview questions are thought-provoking questions that allow you to disclose in-depth and insightful answers and perceptions about your pregnancy. This interview is completely voluntary, and I fully respect your privacy. Upon completion of the interviews, all your private information will be deleted so that you will not have to worry about who will have access to this information. You are not obligated to participate in the study in any way, and you can also feel free to withdraw from the study at any time**.** If you do participate, know that all of data collected is not only deidentified, but is also stored confidentially and will not be reused for any other studies.

For further information, you can email me at Debra.Blackett@waldenu.edu. Also, Dr. Linnaya Graf, a Walden University representative, is available in case you and is my dissertation chair. You may reach Dr. Graf at linnaya.graf2@gmail.waldenu.edu. Thank you for your participation in the study.

Appendix C: Informed Consent Form

Informed Consent Form

You are invited to take part in a research study targeting the perceptions of women who have used Complementary Alternative Women (CAM) during the critical time of being pregnant experiencing during and vomiting. The researcher is inviting women who have been pregnant, who have used one or more complementary alternative medicine (s) to prevent nausea and vomiting during pregnancy. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part. This study is being conducted by a researcher named Debra Blackett, a Ph.D. student at Walden University.

Background Information:
The purpose of this study is to obtain the perceptions of women who are 19-30 years of age and are using one or more Complementary Alternative Medicine (CAM) for Nausea and Vomiting during pregnancy (NVP). The study will investigate health promoting behaviors of young adults who use one or more complementary alternative medicine (CAM). The information could provide answers about nausea and vomiting during pregnancy and what self-care management strategies to use during early stages of pregnancy.

Procedures:
This study involves completing a packet of information:

- Demographics survey
- Survey Plan Qualifying Criteria (SPQC)- which defines CAM.
- Informed consent which should take 20 minutes in length to complete.

After completion of the packet information:

- Take part in the audio recorded telephone interview no more than 30–60
- minutes.
- I will review the transcript of the telephone interview.
- I will share my interpretations, possibly call you back to interpret my questions.
- Member checking which takes no more than 10 minutes in length via phone.

Here are some sample questions:

Interview Guide

My goal is to first define and describe Nausea Vomiting during Pregnancy (NVP) and the varying degrees to include Hyperemesis Gravidarum (HG) as well.

1. How did you know you were susceptible to NVP? Please describe.

2. How would you describe your experience of (stomach sickness) and Nausea Vomiting during Pregnancy (NVP) when you were pregnant? Give some examples of times it affected you.

Voluntary Nature of the Study:
Research should only be done with those who freely volunteer. So, everyone involved will respect your decision to join or not. If you decide to join the study now, you can still change your mind later. You may stop at any time from participating in the study. The researcher seeks approximately 10-15 volunteers for this study.

Risks and Benefits of Being in the Study:
Being in this study could involve some risk of the minor discomforts that can be encountered in daily life, such as stress and minor risks that are relevant such as revealing things that are personal. This study offers no direct benefits to individual volunteers. The aim of this study is to benefit society by that this study may find a way to help women feel better, function successfully and to live a safer quality of life for themselves and their unborn child.

Payment:
Amazon Visa gift card of $20.00 will be offered for participants who volunteer in the study.

Privacy:
The researcher is required to protect your privacy and confidentiality. Your identity will be kept confidential, within the limits of the law. The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports. If the researcher were to share this dataset with another researcher in the future, the researcher is required to remove all names and identifying details before sharing; this would not involve another round of obtaining informed consent. Data will be kept secure by data security measures, such as locked in a drawer with a key, including password protection, data encryption, use of codes in place of names, and storing names separately from the data. All data will be kept for a period of at least 5 years, as required by the university unless otherwise indicated by the IRB.

Contacts and Questions:
You can ask questions of the researcher by using their Walden email address,

Debra.Blackett@Waldenu.edu. If you want to talk privately about your rights as a participant or any negative parts of the study, you can call Walden University's Research Participant at 612312-1210 or email irb@mail.waldenu.edu**.** Walden University's approval number for this study is 09-11-20-0731558 and it expires September 10, 2021.

You might wish to retain this consent form for your records. You may ask the researcher or Walden University for a copy at any time using the contact info above.

Obtaining Your Consent

If you feel you understand the study and wish to volunteer, please indicate your consent by:

Printed Name of Participant _____

Date of consent _____

Participant's Signature _____

Researcher's Signature _____

Appendix D: Research Advertisement

NAUSEA, VOMITING DURING PREGNANCY (NVP) OR MORNING SICKNESS

RESEARCH STUDY

There is a new study *"The perceptions of using Complementary Alternative Medicine during pregnancy for nausea and vomiting"*

If you are 19-30 years old and live in Detroit, Michigan tri-county metropolitan area, have experienced nausea vomiting or morning sickness you might be eligible to participate in a research study investigating health beliefs of young women. For this study, you are invited to describe your experiences about nausea and vomiting during pregnancy.

About the study:

- This study is part of the doctoral study for Debra Blackett, a Ph.D. student at Walden University.
- One 30-60 minute telephone interview
- The interview may be followed by 10- minute phone call to clarify any questions if needed.
- To protect the privacy of those interviewing, names of individuals will be held confidential, only audio recording, no video recording

Volunteers must meet these requirements:

- 19 -30 years
- History of Nausea vomiting during pregnancy or morning sickness
- Use of a Complementary Alternative Medicine (CAM) to alleviate nausea or morning sickness

Please contact Ms. Debra Blackett
Contact# 1-248-688-5752
Email: Debra.Blackett@Waldenu.edu

Appendix E: Demographics

What is your age category? Please include your age.

What is your age?

(A) Under 18
(B) 18-24
(C) 25-30

What is your gender (Sex)?

(A) Female
(B) Other Please specify
(C) Prefer not to say

What is your ethnicity?

(A) White
(B) Black or African American
(C) Native American or American Indian
(D) Asian/Pacific Islander
(E) Other

What is the highest degree or level of school you have completed?

If you are attending school, please indicate the highest degree you have earned.

(A) Less than a high school diploma
(B) High school degree equivalent – vocational trade OR
(C) Some college
(D) Bachelor's degree (e.g. B.A., B.S.,)
(E) Doctorate (e.g. Ph.D., EdD)
(F) Other (Please specify)

What is your current employment status?

(A) Employed full-time (40 + hours a week)

(B) Employed part-time (Less than 40 hours a week)
(C) Unemployed (currently looking for work)
(D) Unemployed (not currently looking for work).
(E) Student
(F) Self employed
(G) Unable to work

What is your marital status?

(A) Married
(B) Single
(C) In a domestic partnership
(D) Divorced
(E) Widowed
(F) Never Married

What is your household income?

(A) Below 10K
(B) 10,K-$50K
(C) $50K – 100,000,K
(D) $100K - $150,000K
(E) Over - $150,000K

Appendix F: Participant Qualifying Criteria Survey

List of qualifying complementary alternative medicine remedies

Please select as many of the Complementary Alternative Medicine (CAM) herbal mixtures, herbal teas, multi-vitamins, and modalities from the qualifying criteria survey (QCS) that you have utilized during first trimester, second trimester, third trimester or All trimesters. Please mark Yes in the appropriate location if used during first trimester, second trimester, third trimester or All trimesters.

Personal Use of Complementary Alternative Medicine (CAM)Treatments to relieve discomfort of Nausea Vomiting and Pregnancy

Nonpharmacological Treatments

Acupressure Y ( ) 1st ( ) 2nd ( ) 3rd ( )

Acupuncture Y ( ) 1st ( ) 2nd ( ) 3rd ( )

Aromatherapy (Doterra, Young Living) Y ( ) 1st ( ) 2nd ( ) 3rd ( )

Lemon oil Y ( ) 1st ( ) 2nd ( ) 3rd. ( )

Mint oil Y ( ) 1st ( ) 2nd ( ) 3rd. ( )

Mustard Oil Y ( ) 1st ( ) 2nd ( ) 3rd ( )

Chiropractic/osteopathy Y ( ) 1st ( ) 2nd ( ) 3rd. ( )

Qi-Gong Y ( ) 1st ( ) 2nd ( ) 3rd ( )

Herbal Mixtures/Teas

Chamomile tea Y ( ) 1st ( ) 2nd ( ) 3rd ( )

Green tea Y ( ) 1st ( ) 2nd ( ) 3rd ( )

Peppermint tea Y ( ) 1st ( ) 2nd ( ) 3rd ( )

Raspberry Leaf/Tablet tea Y ( ) 1st ( ) 2nd ( ) 3rd ( )

Rosehip tea Y ( ) 1st ( ) 2nd ( ) 3rd ( )

Stinging Nettle tea Y ( ) 1st ( ) 2nd ( ) 3rd ( )

Garlic Root Y ( ) 1st ( ) 2nd ( ) 3rd ( )
Thyme tea Y ( ) 1st ( ) 2nd ( ) 3rd ( )
Aloe Vera drink/tea

Herbs
Aloe Vera Y ( ) 1st ( ) 2nd ( ) 3rd ( )
Ginger (Zingiber officinale) Y ( ) 1st ( ) 2nd ( ) 3rd ( )
Bitter gourd – Momordica Y ( ) 1st ( ) 2nd ( ) 3rd ( )
Betel Nuts – Areca Catechu Y ( ) 1st ( ) 2nd ( ) 3rd ( )
Black seed – Nigella sativa Y ( ) 1st ( ) 2nd ( ) 3rd ( )
Evening Primrose oil Y ( ) 1st ( ) 2nd ( ) 3rd ( )
Guava leaves Y ( ) 1st ( ) 2nd ( ) 3rd ( )
Kola nuts Y ( ) 1st ( ) 2nd ( ) 3rd ( )
Lime leaves Citrus aurantifolia Y ( ) 1st ( ) 2nd ( ) 3rd ( )
Neem – Azadirachta indica Y ( ) 1st ( ) 2nd ( ) 3rd ( )
Olive oil Y ( ) 1st ( ) 2nd ( ) 3rd ( )
Prune – Prunus domestica Y ( ) 1st ( ) 2nd ( ) 3rd ( )
'Ravena Luffa actangula Y ( ) 1st ( ) 2nd ( ) 3rd ( )
Syrup Alkuli (Cichorium endivia Y ( ) 1st ( ) 2nd ( ) 3rd ( )
Tumeric Y ( ) 1st ( ) 2nd ( ) 3rd ( )

Multi-vitamins
(Pyridoxine-Vitamin B6) Y ( ) 1st ( ) 2nd ( ) 3rd ( )

Complementary Alternative Medicine CAM as a modality

Music Therapy ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Prayer ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Psychotherapy ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Relaxation techniques ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Humor Therapy ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Hypnosis (Hypnobirthing, Calmbirthing) ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Imagery techniques ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Homeopathic remedies ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Bowen therapy ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Reiki/therapeutic touch ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Bach flower remedies ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Shiastsu ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Blue Cohosh ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Traditional Chinese Medicine (TCM) ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Self-hypnosis ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Meditation ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Reflexology ( )	Y ( ) 1st ( ) 2nd ( ) 3rd
Yoga ( )	Y ( ) 1st ( ) 2nd ( ) 3rd

Summary of Appendix F Results of Inventory Participant Qualifying Criteria Survey

Nonpharmacological Treatments	1ST TRI	2ND TRI	3RD TRI	PRN # 1	PRN # 2	PRN #3	PRN #4	PRN #5	PRN #6	PRN #7	PRN #8	PRN # 9	PRN #10	PRN #11	PRN # 12
Acupressure						2,3		1,2, 3,							
Acupuncture										2		1,	1,		
Aromatherapy				1,				1,2, 3,					1,		
Lemon Oil															
Mint Oil				1,		1,2, 3,									
Mustard Oil															
				1,	1		1,2, 3,	1,2, 3,						1,2,3	
QI-Gong Herbal Mixtures / Teas															
Chamomile tea								1,2, 3,				1,2,			1,
Green tea															1,
Peppermint Raspberry Leaf/Tablet tea				1,	1,	1,3,		1,2, 3, 2,3,					1,		1,
Rosehip tea								1,2,							1,
Stinging Nettle tea															
Garlic Root tea				1,											
Thyme tea															
Aloe Vera drink tea															
Herbs															
Aloe															
Ginger (Zingiber officinale)					1,	1,2,	1,2,	1,2, 3,							1,
Bitter Gourd - Momordica															
Betel Nuts - Areca Catechu															
Black seed - Nigella sativa															
Evening Primrose Oil								3							3,
Guava leaves															
Kola nuts															

Lime leaves Citrus aurantifolia									
Neem - Azadirachta indica									
Olive Oil									
Prune - PRUNE domestica									
Ravena									
Luffa actangula									
syrup Alkili									
Cichorium endivia									
Tumeric	1,								
Multi-vitamins									
pyridoxine-Vitamin B 6	1,		1,2,3,	1,2,3,	1,2,3,	1,2,3,		1,	1,2,3,
CAM as a modality									
Music Therapy				1,2,3,					
Prayer	1,	1,2,3,	1,2,3,					1,	
Psychotherapy									
Relaxation techniques			1,2,3	1,2,3,		1,			1,
Humor Therapy									
Hypnosis (Hypnotherapy birthing, calming birthing)			1,2,3,						
Imagery Techniques				1,2,3,					
Homeopathic remedies				1,3,					
Bowen therapy									
Reiki/therapeutic touch				1,2,3					
Bach flower remedies									
Shiastsu									
Blue Cohosh									
Traditional Chinese Medicine (TCM)									
Self-hypnosis			1,2,3,	1,2,3,					
Meditation	X-1ST		1,2,3,	1,2,3,					
Reflexology									
yoga	X-1ST	1,3,	1,2,3,	2,3,		1,		1,	1,2,3,
Rescue Remedy		1,3,							
Deep							1,2,		

Summary of Appendix F: Participant Qualifying Criteria Survey
By Trimester
List of qualifying complementary alternative medicine remedies

First Trimester Summary

Non-Pharmacological Treatments used during the First Trimester by applicants were:
1 of Twelve participants used Acupressure
2 of Twelve participants used Acupuncture
2 of Twelve participants used Aromatherapy
2 of Twelve participants used Mint Oil
5 of Twelve participants used Chiropractic/Osteopathy

Herbal Mixtures
3 of Twelve participants used Chamomile Tea
2 of Twelve participants used Peppermint Tea
5 of Twelve participants used Raspberry Tea
2 of Twelve participants used Rosehips Tea
1 of Twelve participants used Garlic Tea
5 of Twelve participants used Ginger Tea
1 of Twelve participants used Tumeric Tea
7 of Twelve participants used Multivitamin-Pyridoxine B 6

CAM as a Modality
1 of Twelve participants used Music as a Therapy
4 of Twelve participants used Prayer as a Therapy
1 of Twelve participants used Hypnosis as a Therapy
1 of Twelve participants used Imagery Techniques as Therapy
1 of Twelve participants used Homeopathy as a Therapy
1 of Twelve participants used Reiki as a Therapy
1 of Twelve participants used Bach Flowers/Rescue Remedy as a Therapy
2 of Twelve participants used Self Hypnosis as a Therapy
3 of Twelve participants used Meditation as a Therapy
6 of Twelve participants used Yoga as a Therapy
1 of Twelve participants used Deep Breathing as a Therapy

Second Trimester

Non-Pharmacological Treatments
2 of Twelve participants used Acupressue
1 of Twelve participants used Acupuncture
1 of Twelve participants used Aromatherapy
1 of Twelve participants used Mint Oil
3 of Twelve participants used Chiropractic/Osteopathy

Herbal Mixtures
2 of Twelve participants used Chamomile Tea
1 of Twelve participants used Peppermint Tea
1 of Twelve participants used Raspberry Tea
1 of Twelve participants used Rosehips Tea
3 of Twelve participants used Ginger Tea

Multivitamin – Pyridoxine B6
5 of Twelve participants used Multivitamin-Pyridoxine B 6
Participant 12 recalled, "Multi vitamin B 6 - 1st, 2nd 3rd trimester".

CAM as a Modality
2 of Twelve participants used Prayer as a Therapy
2 of Twelve participants used Relaxation as a Techniques as a Therapy
1 of Twelve participants used Hypnosis as a Therapy
1 of Twelve participants used Imagery Techniques as a Therapy
1 of Twelve participants used Reiki as a Therapy
2 of Twelve participants used Self-Hypnosis as a Therapy
2 of Twelve participants used Meditation as a Therapy
3 of Twelve participants used Yoga as a Therapy
1 of Twelve participants used Deep Breathing as a Therapy

Third Trimester

Non-Pharmacological Treatments
2 of Twelve participants used Acupressure
1 of Twelve used Aromatherapy
1 of Twelve used Mint Oil
3 of Twelve used Chiropractic/Osteopathy

Herbal Mixtures
1 of Twelve participants used Chamomile Tea
1 of Twelve participants used Peppermint Tea
1 of Twelve participants used Raspberry Tea
1 of Twelve participants used Ginger Tea
5 of Twelve participants used Multivitamin-Pyridoxine B6

CAM as a Modality
1 of Twelve participants used Music as a Therapy
2 of Twelve participants used Prayer as a Therapy
2 of Twelve participants used Relaxation as a Therapy
1 of Twelve participants used Hypnosis as a Therapy
1 of Twelve participants used Imagery as a Therapy

1 of Twelve participants used Homeopathy as a Therapy
1 of Twelve participants used Reiki as a Therapy
1 of Twelve participants used Bach Flowers/Rescue Remedy
2 of Twelve participants used Self-Hypnosis as a Therapy
2 of Twelve participants used Meditation as a Therapy
4 of Twelve participants used Yoga as a Therapy
1 of Twelve participants used Deep Breathing as a Therapy

Appendix G: Social Media

Invitation to Study Participation Facebook and LinkedIn

Nausea and Vomiting During Pregnancy

My reason for reaching out to you today I am working on my dissertation to obtain my doctorate in Health Education and Promotion at Walden University. If you have experienced Nausea and Vomiting (NVP) during pregnancy and are within a year of delivering your child, or even if you know of someone who had symptoms of NVP are 18 to 30 years of age and are willing to participate in an hour interview? Please contact me. The purpose of the study is to obtain the Perceptions using Complementary Alternative Medicine (CAM) during nausea and vomiting during pregnancy. To learn more about the research, please contact me to become a study participant.

Thank you in advance for your consideration.

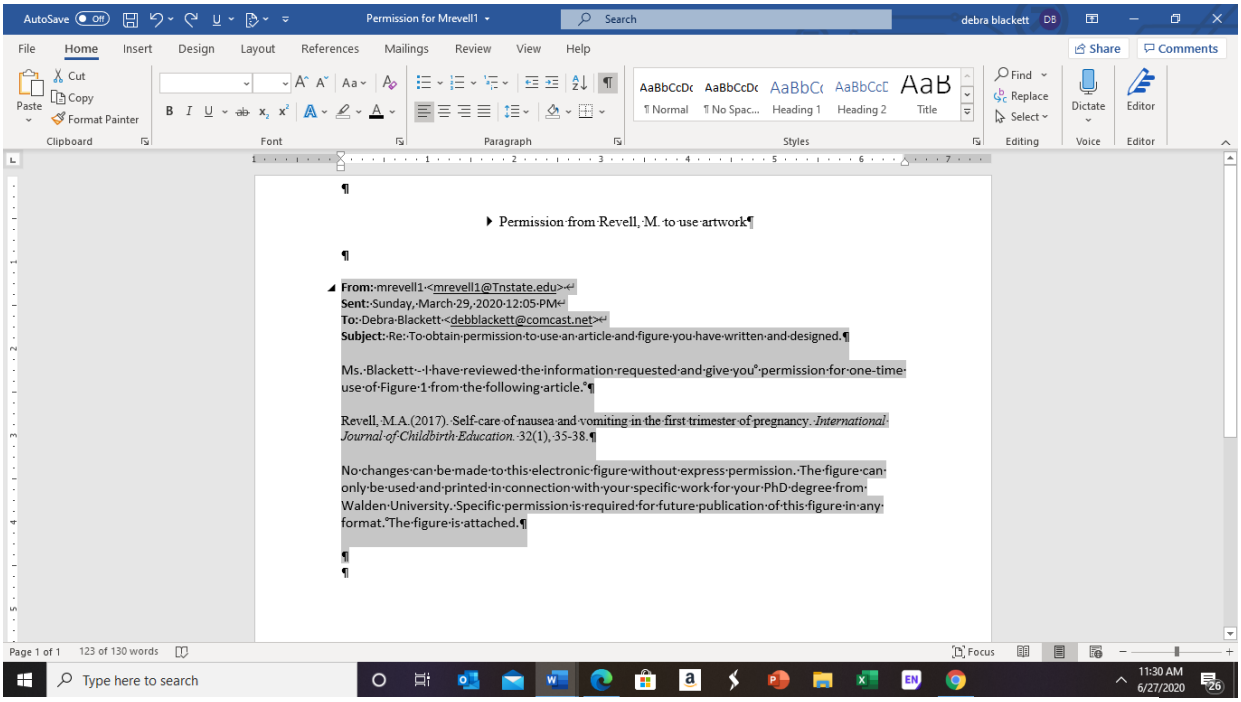
Debra L. Blackett, MScHE

Appendix H: Informed Consent Participant Log

Informed Consent Participant Log

PRN	Participant	Screening Date	"I Consent" email received date	Status
1		October 20, 2020	October 28, 2020	✓
2		October 21, 2020	October 21, 2020	✓
3		October 23, 2020	October 23, 2020	✓
4		October 26, 2020	October 26, 2020	✓
5		October 29, 2020	October 29, 2020	✓
6		October 31, 2020	October 31, 2020	✓
7		November 02, 2020	November 02, 2020	✓
8		November 04, 2020	November 04, 2020	✓
09		November 05, 2020	November 05, 2020	✓
10		November 12, 2020	November 12, 2020	✓
11		November 13, 2020	November 13, 2020	✓
12		November 13, 2020	November 13, 2020	✓

Appendix I: Permission to use Artwork



Niebyl J. R. (2010). Clinical practice. Nausea and vomiting in pregnancy. *The New England journal of medicine*, *363*(16), 1544–1550. https://doi.org/10.1056/NEJMcp1003896

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Appendix J: Audio Recording Notes Log

Audio Recording Notes Log

PRN	Audio Recording	Date	Log/Notes	Status
1	✓	10/20/2020	Manual/recorded	Done
2	✓	10/21/2020	Manual/recorded	Done
3	✓	10/23/2020	Manual/recorded	Done
4	✓	10/26/2020	Manual/recorded	Date
5	✓	10/29/2020	Manual/recorded	Date
6	✓	10/31/2020	Manual/recorded	Date
7	✓	11/02/2020	Manual/recorded	Date
8	✓	11/04/2020	Manual/recorded	Date
9	✓	11/05/2020	Manual/recorded	Date
10	✓	11/12/2020	Manual/recorded	Date
11	✓	11/13/2020	Manual/recorded	Date
12	✓	11/13/2020	Manual/recorded	Date

Appendix K: Community Health Resources

Washtenaw County Community Health Resources

Washtenaw County Community Mental Health
Social services organization
Ann Arbor, MI
(734) 222-3500

Catholic Social Services of Washtenaw County
Social services organization
Ann Arbor, MI
(734) 971-9781

SOS Community Services
Homeless shelter
Ypsilanti, MI
(734) 485-8730

Jewish Family Services of Washtenaw County
Non-profit organization
In Mckinley Executive Centre
Ann Arbor, MI ·
(734) 769-0209

Big Brothers Big Sisters of Washtenaw County
Social services organization
Ypsilanti, MI
(734) 975-0933

Washtenaw County Community Mental Health
Mental health service
Ann Arbor, MI
(734) 222-3750

Western Washtenaw County Service Center
No reviews · Government office
Ann Arbor, MI
(734) 997-1678

Washtenaw County Community Mental Health
Mental health service
Ypsilanti, MI · In Washtenaw County Sexual Health Services
(734) 544-3000

Appendix L: Reflective Journal for P1

Perceptions of Nausea and Vomiting during Pregnancy using Complementary Alternative Medicine

Participant 1 arrived at the pre-arranged time. I could tell participant one was eager to share her personal experience when scheduling the interview date and time. Her voice was soft I spoke softly to mirror her calmness, and I slowed down my voice patterns to put her at ease. I began to ask specific questions about her experience with Nausea and Vomiting during pregnancy. I repeated all the instructions for the interview. I reminded her that she was not obligated to complete the interview if she did not feel comfortable. Again, my goal was to put her at ease. Although, there were no questions asked about the informed consent I reviewed an agenda list of items to include the informed consent and the process for which we were about to begin. I also reminded her that I was going to put her on hold to start the recording of the interview on Rev.com. I felt the need to be mindful during the initial stages of the interview and asked if she was ready to begin the interview recording, she answered yes. I focused my attention on her words carefully, her voice reflections, tone, and I gained additional insights when she answered questions that were reminders for me to ask if she was doing well. I found myself asking often whether she wanted to take a break during the interview session. Especially talking about such a sensitive topic as she shared the details of the severity of her experience of Nausea and Vomiting during pregnancy. Each time I asked if she wanted to take a break it was a sincere act of caring and consideration for the participant. These times also demonstrated

a genuine display of rapport building during the interview session. She answered the interview questions with ease and understood each question asked of her. Her tone of voice and rate of speed in her speech became faster and more excitable as she answered the questions and relived the experience. I would gently remind her that she did not have to complete the interview and could stop at any time during the interview. Although there were changes in her voice range, she did not appear to be uncomfortable. I began with the interview questions. The participant understood the questions; I did not need to rephrase any questions. It appeared that this participant remained comfortable throughout the interview and did not hesitate to answer any of the questions that were asked of her. I reminded her of the of member checking process throughout the interview. I also reminded her that we would have a chance to review the comments made in the interview and wanted to ensure that all her thoughts were adequately captured to her liking. When the interview was ending, I asked her the last question in the batch of interview, number nineteen. which she would have to think deeply about what was most important for pregnant mothers in helping them make the best-informed choices for dealing with NVP and finding good treatment? She became quiet and took a deep breath and shared the answer from her heart. I could hear the sigh of relief in her voice as if she had an opportunity to potentially help others. I waited, then said out of courtesy, I asked her if there was anything else, she wanted to share. There was about five seconds of silence. Then she said, “We do need to listen to our bodies, sit and slow down”. I shared a heart - felt thank you for her participation in the interview session. I reminded her that due to Covid-19 that she would receive her $20.00 Amazon Visa gift card online by email. I let

her know that the typed copy of the transcript constituting that it had been signed by me will be sent to her as well via email and she could make changes to the document if necessary and send it back to me. The entire interview lasted a total of 40 minutes.

My Personal Reflections:

Before the experience

1. I thought about the things that could have gone awry, and how best to manage the tasks proactively. Such as digital telephone recorder, computer, not having a copy of the interview questions. I prepared myself for the task at hand.

2. I listed the things that could have been a challenge; Rev.com voice recorder, manual typing speed.

3. I created a list of agenda items that might be a challenge working with the participant**.**

What was I thinking about during the initial stages of the set up?

1. Reflection in Action**:** Experiencing
2. Is participant number one comfortable?
3. Is the participant ready to share her honest and open deep insights?
4. What else can I say or do to put her at ease?

During the experience

1. I was mindful to observe her tone of voice, and her responses so that I could type with speed and accuracy.
2. I occasionally asked myself if things were going as expected.

3. Or is there anything I should do to make the experience with participant number one more successful.

After the experience

3. Again, I had to remind myself to transcribe my thoughts immediately and to distance

   myself from the emotional outcome shared during the interview with participant number one.
4. A reminder to ask myself during the reflection period, what would I have done differently during this interview as a part of the quality improvement process for the next round of interviews and to capture integrity of each session1.
5. I listed the takeaways from the interview: Concise, organized, gentle/compassionate, outstanding heart felt perceptions from the applicant, the applicant was open and honest.

Appendix M: Preliminary Code Book

The 47 codes below are the preliminary codes generated on the first round of coding.

Barriers to NVP	Medicine for NVP
Best practices	Mild NVP
Best practices	Moderate NVP
Best practices with CAM	Nausea
CAM care	NVP
Challenges for mothers	Pain management
Education of NVP	Pregnancy with NVP
Education on NVP and CAM	Pregnant mothers
Experiences of NVP	Problems with NVP
Family reactions to NVP	Recovery from NVP
Feeling miserable	Severe NVP
Financial challenges with NVP	Signs of NVP
Friends reaction to NVP	Support for NVP
Health status	Symptoms of NVP
Herbs and therapy	Treatment
Hospital stays	Treatments
Impact of NVP	Understand NVP and CAM
Information from friends	Use of CAM
Integrating CAM remedies	Vomiting
Internet/Google	Weight loss
Knowledge about NVP	
Knowledge of CAM	
Knowledge of NVP	
Management	

Appendix N: Final Code Book

The twenty-four final codes are organized by eight themes.

Theme One: Experience of NVP with pregnancy: Signs and Symbols
- Nausea
- Vomiting
- Loss of Weight

Theme Two: Impact of NVP with Pregnancy: Moderate and Severe Problems with NVP
- Severe Most of the time
- Moderate could not keep food down

Theme Three: Family Friends Reactions to NVP: Supportive
- Great concern about my Nausea
- Helpful with my needs to get better
- Provided medicine

Theme Four: Knowledge/Education of NVP
- Self-Education
- Information obtained from Internet/Google
- Little to no knowledge
- Information from Friends/Family

Theme Five: Barriers experiences addressing NVP: Experienced Addressing NVP
- Challenges of having NVP
- Financial Challenges
- Paying for Medication
- Going to the Hospital

Theme Six: Management/Treatment: Recovery From NVP
- Used Herbs
- Used Vitamins
- Used Therapies

Theme Seven: Knowledge of CAM: Understanding the use of CAM
- Acupuncture
- Herb Remedies
- Vitamin B 6

Theme Eight: Knowledge of CAM: Health Status Changed
- CAM remedies worked
- Medication and Acupuncture worked

Appendix O: Research Log

The chart below is an outline of documentation of events with participants, screening dates, consent agreement, the interview date, the length of the interview recording, and a brief word interpretation of their description to NVP.

Screening Dates - Consent	Consent Agreement Date	Interview Dates of Interview	Length of interview	Interpretation
(1)09.30.2020	10.01.2020	10.27.2020	1.07 minutes	Severe
(2)09.24.2020	09.23.2020	10.28.2020	57.18 minutes	Severe
(3)10.29.2020	10.29.2020	10:29 .2020	35.02 minutes	Moderate/Severe
(4)10.13.2020	10.30.2020	10.31.2020	37.00 minutes	Severe
(5)09.21.2020	09.21.2020	11.02.2020	1.26 minutes	Severe
(6)10.29.2020	11.04.2020	11.04.2020	25.13 minutes	Mild/Moderate/Severe
(7)11.03.2020	11.03.2020	11.06.2020	22.14 minutes	Moderate/Severe
(8)09.22.2020	11.08.2020	11.08.2020	17.29 minutes	Mild
(9)11.05.2020	11.05.2020	11.09.2020	45.30 minutes	Mild
(10)11.02.2020	11.02.2020	11.12.2020	58.05minutes	Severe
(11)11.12.2020	11.12.2020	11.13.2020	23.55 minutes	Severe/Mild
(12)11.09.2020	11.10.2020	11.13.2020	20.25 minutes	Severe/Mild