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Pregnancy Education in Rural Areas

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PREGNANCY EDUCATION IN RURAL AREAS

A Scholarly Project Submitted to the Graduate School in Partial Fulfillment of the Requirements for the Degree of Doctor of Nursing Practice

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An Abstract of the Scholarly Project by
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Educating of the pregnancy population before, during and after pregnancy can help to ensure a healthy pregnancy and in turn reduce maternal mortality. The purpose of this research project was to understand education provided in the clinic and hospital setting in a rural area by those who take care of and talk to pregnant women and their support persons. A descriptive research design was utilized to discover the important education topics that are discussed, and the routine tests that are done throughout the pregnancy, during labor and at delivery, and even ask how prepared they feel they are equipped to handle high risk situations. There were 20 participants that voluntarily filled out a 21-question questionnaire, including questions on place and county of work as well as longevity at the job. Participants worked as either a M.D., D.O., N.P., R.N., or L.P.N., with the pregnancy population in either the clinic, hospital, or both. Results were then entered into computer software program and found that majority of those who work with a pregnancy population have worked less than five years, and most work in the hospital setting. The participants spent 5-15 minutes educating the pregnant population they interacted with, and majority covered various topics with the patient and provided different means of education. Most of those who were interviewed felt that they were equipped to handle high risk situations if needed. The population used was small, but it shows how prepared staff is to provide education to pregnant women and family.

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CHAPTER I

INTRODUCTION

The World Health Organization (WHO) defines pregnancy-related death "as the death of a woman during pregnancy or within one year of the end of pregnancy from a pregnancy related complication, or the aggravation of an unrelated condition by the physiologic effects of pregnancy" (WHO, 2019). The United States is seeing the number of women who die during and after childbirth increasing while the rest of the developed countries are seeing a decline (Frayne, 2017). There are various reasons for the numbers to be increasing including lack of access to healthcare, as well as increasing number of women with comorbidities during their pregnancy. There has been more research done that is bringing to light an increase in pregnancy-related deaths than had previously been uncounted or not considered. This scholarly project researched the education that is provided to the pregnant population as well as the education that is given to those providing care and ensured that there is a cohesive message and understanding on what is needed to be done to ensure that maternal mortality does not continue to increase.

Statement of Problem

On average "700 women die each year in the United States as a result of pregnancy or delivery complications" (CDC, 2019). "American women are more than three times as likely as Canadian women and six times as likely as Scandinavian women to die in the maternal period" (Martin, 2017). "Of the U.S. maternal deaths, 39% of women died before or on the day of birth and 61% died in the postpartum period" (Suplee, Kleppel, & Bingham, 2016, p. 895). These are just a few of the statistics, and maternal mortality is on the incline in the United States. Women who are pregnant, participating in the act of labor and delivery, as well as up to one year postpartum are included in the statistics of maternal mortality. There are several thought processes on why there is a rise in maternal mortality ranging from more focus on infants during childbirth instead of the mother, racial disparities in health care, underreporting of maternal mortality as well as the education that is provided to the patients during and after pregnancy and the education given to the staff taking care of the pregnant population.

A report done for the Society for Maternal-Fetal Medicine looked towards racial and ethnic disparities as part of the culprit behind a rise in maternal mortality rates and looked to three main factors that cause the disparities – patient, provider, and system. The article claims that "black women in the United States are 1-3 times more likely than white women to die from pregnancy-related complications and are more likely to have a preventable death" (Jain et al, 2018, p. B9). This article offers suggestions on how to help close the gaps including more research, and those providers need to be educated on

differences a minority might face vs the majority as well as the importance of the perception of the patient.

Another article discusses the importance of preconception and interconception care. The article focuses on anytime a woman is seen for various reasons in the healthcare setting, the topic of pregnancy and health is discussed. “Almost half of all pregnancies in the U.S. are unintended” (Frayne, 2017, p. 6). The article discusses that there are modifiable risk factors that need to be addressed. Because of this, the author argues that discussion to ensure healthy pregnancies and healthy outcomes must be initiated by providers regardless of if patient is pregnant or not, or even contemplating pregnancy. This will help women to maintain a healthier lifestyle when and if they become pregnant.

Providing access to early prenatal care and continuing competent care and education throughout pregnancy, during labor, as well as postpartum can help to curb the rise in maternal mortality. This project attempted to show that proper education and communication between patient and healthcare provider throughout the stages of pregnancy, labor and postpartum will help to reduce maternal mortality and have a positive impact on pregnancy experience.

Significance to Nursing

Nurses have a lot of contact with women, especially while they are in the hospital for either pregnancy-related complications or during labor, delivery and postpartum. “Registered nurses represent the largest health care work force in the United States and provide essential care to the approximately four million women who give birth each year in the United States” (Bingham & Cornell, 2016, p. 861). Nurses need to know and

understand the risk factors associated with maternal mortality as well as the interventions and actions to take if such a case arises, as they are the first line of defense in some situations. Nurses provide a lot of education during these times to the pregnant population as well as their partners and being well versed in what could happen and how to fix it can mean a life is saved.

Specific Aims/Purpose

The purpose of this scholarly project was to understand what education is being provided and that those who work with the pregnant population understand when a situation is considered critical and could lead to the complications of the pregnant or postpartum patient. Staff that interact with those who are pregnant, laboring, as well as those who are in the postpartum phase need to be educated and stay up to date on the current research. The staff will know the signs and symptoms and how to treat them should an adverse event occur during these stages in hopes to reduce maternal mortality.

Theoretical Framework

Roy's Adaptation Model of Nursing can be utilized regarding maternal mortality. The theory focuses on how people adapt to their changing environment and health. This model addresses three questions – Who is the focus of nursing care? What is the target of nursing care? And when is nursing care indicated? Adaptation occurs when people respond positively to their environmental changes, which has three components: focal, contextual, and residual. This theory helps to understand the patient's need to be respected and need to be able to adapt as well as the nurse needs to help with the adapting – such as what comes with lifestyle changes in relation to pregnancy. (Petiprin, 2016).

Roy's Theory has ten big assumptions:

- The person is a bio-psycho-social being.
- The person is in constant interaction with a changing environment.
- To cope with a changing world, a person uses coping mechanisms, both innate and acquired, which are biological, psychological, and social in origin.
- Health and illness are inevitable dimensions of a person's life.
- To respond positively to environmental changes, a person must adapt.
- A person's adaptation is a function of the stimulus he is exposed to and his adaptation level.
- The person's adaptation level is such that is comprises a zone indicating range of stimulation that will lead to a positive response.
- The person has four modes of adaptation: physiologic needs, self-concept, role function, and interdependence.
- Nursing accepts the humanistic approach of valuing others' opinions and perspectives. Interpersonal relations are an integral part of nursing.
- There is a dynamic objective for existence with the goal of achieving dignity and integrity.

Roy's Theory also has four implicit assumptions:

- A person can be reduced to parts for study and care.

- Nursing is based on causality.
- A patient's values and opinions should be considered and respected.
- A state of adaption frees a person's energy to respond to other stimuli.

(Petiprin, 2016)

Assumptions

The assumptions this writer would identify in this theory in relation to the project include the following:

- To come with a changing world, a person uses coping mechanisms, both innate and acquired, which are biological, psychological, and social.
- To respond positively to change a person must adapt, nursing accepts the humanistic approach of valuing other opinions and perspectives, a person values and opinions should be considered and respected.

Pregnancy is a condition that needs to be adapted to and there are a lot of opinions on what is healthy for pregnancy and proper for labor and birth. Nurses and providers need to be adaptable and respectable of the opinions and beliefs to maintain a health pregnancy and birth. Education will help as well as communication to help those that are pregnant or even the partners of the pregnant population be supportive in the most informed way possible and to be involved in their own care.

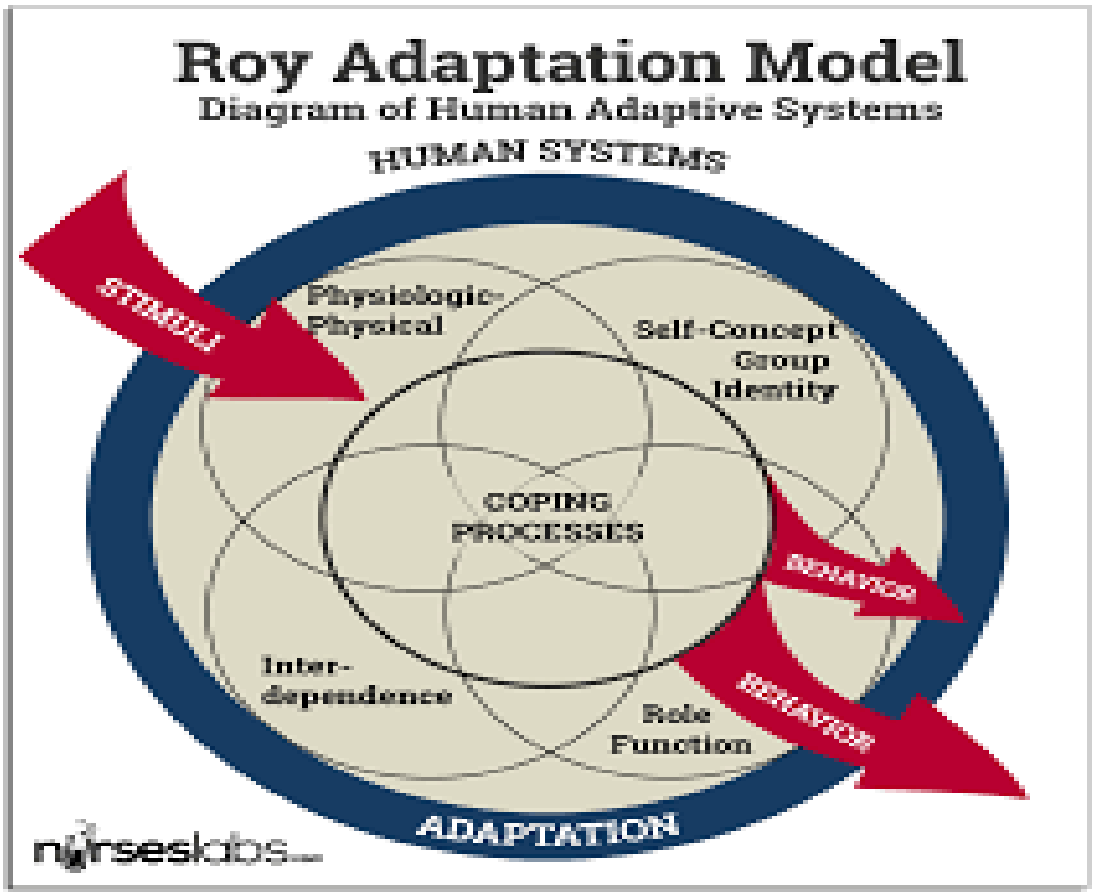

Figure 1. Roy Adaptation Model. Adapted from "Sister Callista Roy: Adaptation Model of Nursing," by Angela Gonzalo, 2014, August 19.

Research Questions

1. How much time do the providers and staff spend educating pregnant patients in the clinic setting and/or hospital setting?
2. What are the topics that are discussed during an appointment with the pregnant patient and their support person by the provider and the staff?
3. What do the providers/educators/nurses use as education tools that a patient can take with them?
4. Are the providers aware of the WHO's clinical practice guidelines, to stay up to date on recommendations during appointments?
5. Do providers encourage the patient to educate themselves, to be a part of the care they receive and to ask questions?
6. Does the staff and provider feel comfortable with high-risk population and are they equipped to handle an emergent situation?
7. What tests are done at each appointment and through each stage of pregnancy by the provider and staff?

Definition of Key Terms/Variables

Health disparities - preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations (CDC, 2019).

Prenatal Education - will be used in this research as what is taught to the pregnant population at their prenatal visits, in prenatal classes that are taken as well as any type of education discussed or given while in the hospital throughout the pregnancy, labor and birth. This will also include what education is given postpartum when the patient and

family is discharged from the hospital and up to one year postpartum at any visits the patient might have with their healthcare provider. March of Dimes discusses its importance to maintain a healthy pregnancy. (marchofdimes.org, n.d.).

Healthcare Access - will be investigated to see what is available in areas for prenatal care as well as the labor and birth. Women who can't get to their appointments because of location will need some type of additional resources to ensure a safe and healthy pregnancy, labor, and birth. Looking at how women get to their appointments and the availability of their resources in their area to understand if some of the reason a woman might not be fully engaged in their health.

Perception - the ability to see, hear, or become aware of something through the senses (Oxford dictionaries, n.d.).

Communication - imparting or exchanging of information or news (Oxford dictionaries, n.d.).

Logic Model of Proposed DNP Project

The components of the logic model for this project included inputs, activities, outputs, outcomes, and constraints as outlined in Table 1 below.

The logic model has two parts, the first part focuses on the staff that interacts with the pregnant and postpartum population. The input for this part is educating the nursing staff and any other staff that would interact with the pregnant population. Education would be on risk factors for maternal mortality such as the women who have comorbidities that would increase their risk of an adverse event related to pregnancy and childbirth. The activities related to this input are to have annual education that would be mandatory for the staff to take to ensure that they have the knowledge and understanding

should a situation arise. Outputs would be pretests and posttests done to ensure that there is understanding of what is being taught, looking through charting to ensure that any adverse event was avoided or managed. The short-term outcome would be that the staff has a better understanding of risk factors and the interventions necessary to prevent an event. Intermediate outcomes are that staff can perform and put into the actions the interventions when needed, and long-term outcomes is that there will be a decrease in maternal mortality. Constraints of this logic model are time and money. Money is needed to ensure that the education is available and finished in a timely manner. There also needs to be willingness on the part of the staff in question to fully participate and engage in this education.

The other part of the logic model focuses on the pregnant population specifically with the input being education of the pregnant population and ensuring they have access to services during and after pregnancy and childbirth. The activities for this are ensuring that resources are available to the pregnant population, such as group prenatal care, free prenatal classes, possible telemedicine or even an app that can be downloaded. Outputs will be surveys that the pregnant population can fill out to understand that they are involved in their care, have access to proper care and treatment, and their perceptions of the care they are receiving. The short-term outcome is that the pregnant population and their support persons are prepared for pregnancy, labor and birth and attempt to maintain a healthy lifestyle. Intermediate outcomes of the logic model are that the pregnant population and their partners know and understand the signs and symptoms to look for as well as are actively involved in their care. Long-term outcomes will be decrease in maternal mortality and even healthier lifestyle with a decrease in comorbidities seen. The

constraints for this part will be time as the biggest constraint. Women might not want to put forth the time it takes to do surveys to really understand their perception and to follow a woman through her pregnancy will take a lot of time and effort. Location of where clinics are, what resources they have, and are willing to expand on to ensure that the correct steps and actions will be taken will also be a constraint. Money is a constraint due to the fact of getting women to their appointments, offering free education or even an app could end up being costly.

Table 1.1.

Logic Model

Inputs	**Activities**	**Outputs**	**Short-term Outcome**	**Intermediate Outcome**	**Long-term Outcome**	**Constraints**
Nursing/Staff education	Create annual mandatory education programs for those who interact with pregnant patients as well as during childbirth and postpartum. *WHO Recommendations*	Pre-test and post-test would be given to the staff that is receiving the education	Staff has better understanding of risk factors, as well as proper interventions	Staff can perform interventions when needed	Decrease in maternal mortality	Money and time to implement education program. Willingness of the staff to participate and put into practice what is learned
Pregnancy population education	Ensure access and availability of prenatal care, intrapartum and postpartum care as well as education classes. *WHO recommendations*	Surveys given throughout their care and at different stages	Patients and partners prepared for pregnancy, labor, and birth	Patient's actively participate in their care, understanding signs and symptoms to watch for in case of adverse effects	Decrease in maternal mortality. Healthier lifestyles achieved.	Location of clinics and hospitals. Willingness of pregnant patients and their partners to participate in education. Money to ensure that the pregnant population can come to appointments.

Summary

Due to maternal mortality being on the rise in the United States it is imperative that every avenue is explored to ensure that the number is decreasing and that everything that can be done to combat the issue is being done. The research in this project focused on what those in the healthcare field know as risk factors as well as identify what to do in a situation. Educating nurses and the staff that interact with the pregnant population and their support persons will help to ensure that risk factors and signs and symptoms will be identified more quickly and that knowing what actions to take can help to prevent and control if a situation were to arise that could lead to maternal mortality. Understanding the comorbidities that a woman might have that puts them at risk will be important, as is staying current on recommended treatments.

This research also looks at the point of the view of the pregnant population regarding how they are being treated and their knowledge base. For the medical community to do better and be better they need to understand what the general population knows and to communicate the same ideas across the board. Utilizing Roy's adaptation model for the theoretical framework will help to make the pregnant population a part of the solution and involved in their care. Discussing maternal mortality can be a hard subject to discuss with those who are pregnant and their support persons, but it is not something that should be confronted and not ignored.

CHAPTER II

REVIEW OF LITERATURE

To prevent maternal mortality, it is necessary to understand the issues and circumstances surrounding the mother during and after her pregnancy. Improved maternal education in both prenatal and postpartum periods are necessary to improve pregnancy outcomes. Studies have shown that education prenatally and in the postpartum periods can have a positive impact on the outcome of pregnancy, birth, and postpartum periods. It is important to understand the role that education plays in healthy pregnancy outcomes. This chapter will provide a review of the literature of maternal mortality during the prenatal and postpartum periods emphasizing on the impact of maternal education. It will address the role that maternal education plays in reducing maternal mortality. Consistent availability to maternal educational programs during the perinatal and the following postpartum period up to one year are essential to reduce maternal mortality associated with childbirth. This chapter will also look at the recommended practice guidelines that are presented to help guide provider education at prenatal and postpartum visits. Research was completed for this literature review using Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed Medline, and ProQuest Nursing and Allied Health.

Evidence

Many studies discuss the benefits of prenatal education. Several research articles focus on prenatal education, address maternal nutrition, education of the labor process, recognition of early postpartum depression, and care for the baby in the postpartum period (Godin, 2015). According to a study conducted in Britain, approximately 93% of the women attending prenatal programs found them to be useful (Godin, 2015). An article written by Jasmah Hassan (2016) citing the importance of antenatal education discusses early intervention programs providing education for expectant mothers is part of routine care in many developing countries. It is recommended to start prenatal education as early as possible during the pregnancy to address issues such as postpartum depression (Hassan, 2016). According to Krysa (2016), the benefits of prenatal care improve the well-being of the pregnant woman, and it allows the pregnant woman to endure the physical suffering while having a deeper understanding of the labor process. Another article by Hanell (2018) identifies the importance of prenatal education including both labor and delivery with natural vaginal births and the importance of preoperative education for cesarean sections. The laboring patient is "dictating the position they want to be in, or what form of pain relief they want to use. They must be prepared and make decisions during the event" (Hanell, 2018, p. 4). There is also the question of prenatal education enhancing prenatal bonding by ensuring the initial mother-fetus interaction (Bellieni, 2007).

It is also important to look at the different ways that education can be presented. Examples of the educational delivery includes prenatal classes, group prenatal classes, and family-centered education utilizing online programs, forums, and social media. The

primary care provider as the educator can be beneficial when focusing on prenatal, postpartum, and discharge education to recognize issues that can lead to maternal mortality.

Maternal Mortality

Maternal mortality is on the rise in the United States. According to the Centers for Disease Control (CDC) (2019), pregnancy and delivery complications in the United States leads to approximately 700 maternal deaths annually. “American women are more than three times as likely as Canadian women and six times as likely as Scandinavian women to die in the maternal period” (Martin, 2017, para. 14). “Of the U.S. maternal deaths, 39% of women died before or on the day of birth and 61% died in the postpartum period” (Suplee, et al., 2016, p. 895). A research article published in *Biomed Central Public Health* cited that following decades of improvement in maternal health in the United States, the maternal mortality ratio has doubled over the last two decades from 9.8 maternal deaths per 100,000 live births in 2000 to 21.5 per 100,000 in 2014 (Nelson, et al., 2018). Over the same period, most industrialized nations have achieved reductions in maternal mortality (Nelson, et al., 2018). According to the CDC (2000), it is necessary to encourage prenatal care early within the first twelve weeks to avoid any unintended or missed complications that can result in morbidity and mortality of the mother and unborn child.

Preconception/Interconception Care

As a paradigm shift in preconception and interconception care, it is important to use every encounter for education to improve birth outcomes (Frayne, 2017). A study by Frayne (2017) discusses the importance of constantly educating the patient at each

doctor's visit to focus on promoting a healthy lifestyle and addressing modifiable risk factors whether before or during pregnancy. Frayne (2017) identified that almost half of pregnancies in the United States are unintended. This article discusses the importance of educating women and their partners on the need to stay healthy prior to becoming pregnant (Frayne, 2017). Taking a practice approach, the article addresses providing education for future pregnancies during the initial postpartum period (Frayne 2017). Making healthy choices will mean better and healthier outcomes for pregnant women and their families. Education during the prenatal office visit leads to living a healthier lifestyle and may require fewer medical interventions during delivery. "*Preconception care* is defined as a set of interventions that aim to identify and modify biomedical, behavioral, and social risks to a woman's health or pregnancy outcome through prevention and management before pregnancy occurs" (Frayne, 2017, p. 5). The concept is that women not seen before the pregnancy were not assessed for modifiable risk factors and were not provided an education plan to prevent future complications. Therefore, women should be treated as if they will be pregnant at any time, and health care providers should use every interaction with a woman to educate. They should discuss what they are doing to prevent pregnancy and what they are doing to stay healthy in case of pregnancy. Interconception is between pregnancies, as a woman might not be planning on getting pregnant but still possibly could even if they just had a baby. The biggest issue with this train of thought is that women shouldn't be seen as someone who is imminently going to have a baby. Women may not want to be viewed this way, especially if they never intended to have children and already take measures to prevent this.

An article entitled Women's Health Behaviors with Unintended Pregnancy and Births discusses that women who have unplanned pregnancies may not seek prenatal care as readily as a woman seeking to become pregnant (Stadtlander, 2016). Education is necessary. It is important to be open and honest about the problems that can arise during and after pregnancy (Stadtlander, 2016). Although the woman may not be initially interested in health and making health decisions, it does not mean they will not be receptive to the education provided. Open communication is necessary to make healthy choices for health and improved pregnancies outcomes (Stadtlander, 2016).

Historical Perspective of Prenatal Care

Prenatal education is used to prepare expectant mothers and partners for childbirth and newborn infant care. The definition of prenatal is "before birth; during or relating to pregnancy" (Oxford English Dictionary, 2018). The first use of education according to Merriam-Webster (n.d.) was in 1531. Etymology dictionary states the use of prenatal education is defined as "child-rearing and the training of animals" (Online Etymology dictionary, 2018, online version). The Office of Women's Health, (n.d.) which is a division in the U.S. Department of Health and Human Services, defines prenatal care as "the healthcare you get while you are pregnant".

The current use of prenatal education is that it is used synonymously with antenatal education. Prenatal education is meant to educate mothers, fathers, and support persons on safe pregnancy, labor, delivery, and newborn/infant care. An example of prenatal education provided in Poland is called the School of Birth and was originally started to help to calm the fears of the labor and delivery process. It was determined

prenatal care leads to families making healthier decisions which lead to healthier pregnancies (Krysa et al., 2016).

"Prenatal and perinatal (PPN) parenting education has been defined as the knowledge, skills and instructions provided to parents on how they can most effectively achieve their role as parents" (McKee, 2018, p. 1). Early prenatal education was indirectly communicated from woman to woman or from mother to daughter. In the 1900s, formal education was provided by the American Red Cross to help with the health of the mother and infant (McKee, 2018). In our current society, prenatal education is formally communicated through parenting books, prenatal classes, and healthcare providers. Group antenatal care and education are becoming important components that are found to improve the woman's health literacy to recognize and prevent problems, prepare the mother for delivery, and to educate on newborn care (Lori, 2017). The group prenatal care model was first introduced in the 1990s by midwives. Centering Pregnancy is a common form of the group prenatal care model. Currently, group prenatal care is a common practice used in the classroom setting, social media, and internet resources for prenatal education to help provide pertinent information.

Demographic Comparisons

According to a qualitative study published in *Maternal Child Health Journal* comparing state statistics, Georgia has the highest rate of maternal mortality (Meyer, 2016). The study focused on limited prenatal care by pregnant women. The study completed in-depth interviews with 24 different women who had given birth in 2013 as well as interviewed four perinatal case managers. In the study, researchers

> identified delays in a woman's decision to seek prenatal care (PNC) such as awareness of pregnancy and stigma; delays in accessing an appropriate healthcare facility (such as choosing a doctor and receiving insurance coverage); and delays in receiving adequate and appropriate care (such as continuity of care and communication) (Meyer, 2016, p. 1358)

The study ultimately determined that women who didn't feel a part of and involved in their own prenatal care were not seeking prenatal care as necessary (Meyer, 2016). Although this research article reviewed lower-income areas in Georgia, it could be a starting point to promote prenatal care and universal education in a timely fashion.

Michigan organized an improvement plan to help combat maternal and infant mortality (Choudhury & Danawi, 2019). Their plan for improvement started in 2019 and continues until 2022. To have a positive effect on social change for prenatal care, the public is actively included in town hall meetings to promote a successful community intervention (Choudhury & Danawi, 2019). There are several states that have implemented strategies to address maternal mortality focusing on inequalities. Michigan reviewed racial and social inequities, and the meetings focused on education and policy changes as well as getting the community involved.

Group Prenatal Care

Group prenatal care has many benefits to help provide important education to the pregnancy population and has shown to have "lower rates of prematurity and low birth weight, fewer cesarean sections, improved breastfeeding outcomes and improved maternal satisfaction" (Rowley, et al., 2015, p. 1). Group prenatal care brings women together who are of the same gestational age to have a support group and support system.

The visits are private for procedures such as vaginal exams, lab work, and ultrasounds. The educational component is in a group setting with other women who are participating in the group prenatal care. This helps to facilitate bonding between the women and an understanding of the proper maternal education. Women and their partners will have others to rely on for questions and concerns that can be addressed by a healthcare professional.

A study published in the *Maternal Child Health Journal* states that "group prenatal care results in improved birth outcomes in randomized control trials, and better attendance in group prenatal care visits which is associated with stronger clinical effects" (Cunningham et al., 2017, p. 770). This study looked at the positive satisfaction rates of women who were using group prenatal care. The study also found that group prenatal care is better in terms of outcomes than traditional individual care.

Educating the Family

"In countries where maternal mortality ratio remains high, antenatal education is considered one of the top priorities" (Shimpuku et al., 2019, p. 2). This study focuses on using family-oriented antenatal education to help improve birth preparedness and maternal-infant birth outcomes (Shimpuku et al., 2019). The study examined family involvement in pregnancy and childbirth to determine if there were better outcomes. This study sought to determine that pregnant woman and their families attending appointments together and utilizing appropriate resources had a better understanding of the potential complications (Shimpuku et al., 2019). The program used is called Birth Preparedness and Complication Readiness (BPCR). They provide education, transportation, and assistance to set up birth plans. They determined that involving husbands in the education

and helping them to understand that there are risks in relation to pregnancy and delivery helped in reducing complications with pregnancy and childbirth.

Anticipatory Discourse

Anticipatory Discourse in Prenatal Education by Linnea Hanell (2018) discusses the importance of communication to help prepare expectant parents for childbirth, and it focuses on prenatal education. It analyzed two different prenatal education classes that are taught by two different midwives discussing potentially uncomfortable topics. This study evaluated prenatal education and the importance of why and what is being taught. It will also help guide any education that should be provided in not only birthing classes but in the physician or midwives office (Hanell, 2018). Providing prenatal and postpartum education is recommended any time there is opportunity for education. It is especially important for expectant mothers and their partners because they actively participate in the process.

Social Media

"With the advancement of modern technology, the internet has become a standard platform for many forms of communication and education" (Weatherspoon et al., 2015, p. 21). The fact that technology is so easily available and able to provide proper education is amazing and something that should be utilized to the fullest. Social media is one of the many ways to educate utilizing such services as Facebook, Twitter, and Instagram. An article published in *International Journal of Childbirth Education* discusses the ways that technology and using online sources can help in providing education. It discusses how to use each platform and their advantages as well as shorter messages can help get the information across such as on the platform of Twitter

(Weatherspoon, et al., 2015). The article does go on to say to use caution to protect the patients from misinformation and to educate the patient and family that there is misinformation out there.

"Most pregnant women download an average of three pregnancy apps during their gestational period" (Frazer et al., 2015, p. 12). Frazer (2015) discusses how pregnancy apps help women get the answers to questions they have early on in pregnancy. The article discusses how handouts given in the doctor's office weren't always helpful because they never were reviewed in the office (Frazer, 2015). This is where pregnancy apps can help. The apps provide up-to-date information as well as pictures and videos. Unfortunately, some pregnancy apps can also have misinformation, so it is important to provide appropriate apps if utilizing this technology. The educator must guide the pregnant patient to acquire the most appropriate and up to date apps. The purpose of the apps is to ensure that women are getting the proper educational facts.

Postpartum Education

"Many women are not aware of their health needs after they give birth, particularly how to differentiate normal from abnormal signs and symptoms or when they should seek help for those symptoms" (Suplee et al., pg. 894, 2016). Suplee et al. (2016) discusses the importance of discharge education provided by nurses in the postpartum period and state that on average 50% of maternal deaths occurred in postpartum period and up to one year after birth. It is necessary for those who provide the postpartum education at time of discharge to be consistent in the education they provide. Regardless of the parity of pregnancies, it is prudent to be consistent and uniform in the postpartum education provided. Signs and symptoms of potential complications need to be monitored

and reported. These educational teachings should be discussed at all prenatal visits. A qualitative study published by Suplee et al. (2016) in the *Journal of Obstetric, Gynecologic & Neonatal Nursing* (JOGNN) examined postpartum discharge instructions that were given by nurses and the effect they had on postpartum complications. The study used six focus groups with 5-11 nurses in each group, and they were given an interview guide.

> The interview guide consisted of 10 questions that prompted the exploration of participants' perspectives on various aspects of postpartum education, such as educational resources, specific information related to maternal mortality, barriers, and facilitators to introducing new educational materials, the nurse's role in the facilitation of follow-up care, and postpartum documentation (Suplee et al., 2016, p. 896).

Through this study they found that not all information is relayed in the same way. Vague language was used such as the words "increased bleeding" (Suplee et al., 2016). Different hospitals provided discharge instructions in different ways. Some nurses provide education when the patient walks through the door, and some hospitals utilized a specific discharge nurse who spends an allotted amount of time prior to discharge. Suplee et al. (2016) focused on larger hospitals rather than rural, lower income community hospitals since the care for high-risk population were greater in this subpopulation.

Nurse Practitioners as Educators

Nurse practitioners tend to have longer visits, and an article titled "An Examination of the Role of the Nurse Practitioners in Prenatal Counseling" by Marlis Bruyere (2011) investigates how utilizing a nurse practitioner to help with education can convey the same message, call for a cohesive visit and help to ensure that all topics are

covered that are necessary regarding pregnancy and what to expect. “Prenatal counseling and education are important for women with normal pregnancies and extremely important for women with high-risk pregnancies, history of premature labor, or at risk for a low-birth-weight baby” (Bruyere, 2011, p. 40). Due to physician shortages in the country, using a nurse practitioner makes sense and will help to build a strong prenatal program and allow the patient involvement in their care.

Clinical Practice Guidelines and Appraisal

The World Health Organization (WHO) (2016) put together bundle guidelines for antenatal care to focus on positive pregnancy outcomes and reduce maternal and infant mortality. They put this together after 303,000 women died from pregnancy-related causes in 2015, and only 64% of women were seeking prenatal care (WHO, 2016). Proper identification and education for women who are pregnant increase the pregnancy experience as well as the outcome. “Patient’s perceptions related to their interpretations of symptoms of illness, the services they receive and their sense of control over a proposed treatment regimen all represent perceived and nonstructural barriers to healthcare” (Jain, 2018, p. B9). The WHO guidelines will help to give the patient some type of control and involvement in their care.

The *WHO Recommendations on Antenatal Care for Positive Pregnancy Experience* published in 2016, breaks down what should take place on antenatal care visits with discussion on dietary recommendations, when to provide ultrasound to the patient, and what labs to draw. Discussion with patients about substance use and cigarette/tobacco use is discussed as well. It discusses medications to use for normal pregnancy issues such as nausea and low back pain and suggests different things to try.

This guideline goes over 47 different things that can take place during a pregnancy visit and what is recommended versus what has changed from past recommendations (WHO, 2016). Eight of the guidelines are the focus of this project that can help with prenatal education (Table 1, below).

Appraisal of the quality of the clinical practice guideline was determined by the AGREE II instrument (AGREE, 2009). Based on the AGREE II instrument, this guideline had a strong quality of evidence and strength of the recommendations (AGREE, 2009). These guidelines can easily be incorporated into clinical and hospital visits as well as prenatal education classes to help educate those who are pregnant. They will also help to have the pregnant patient and her family involved in the process and part of the decision-making process when it comes to pregnancy, delivery and postpartum.

Table 2.1

WHO Recommendations

Intervention	Description	Specifics
Dietary Intervention	Counseling about healthy eating and keeping physically active during pregnancy is recommended for pregnant women to stay healthy and to prevent excessive weight gain during pregnancy	-A healthy diet contains adequate energy, protein, vitamins, and minerals obtained through the consumption of a variety of foods, including green and orange vegetables, meat, fish, beans, nuts, whole grains, and fruit -A healthy lifestyle includes aerobic physical activity and strength-conditioning exercise aimed at maintaining a good level of fitness throughout pregnancy without trying to reach peak fitness level or train for athletic competition. Women should choose activities with minimal risk of loss of balance and fetal trauma
Tobacco Use	Health-care providers should ask all pregnant women about their tobacco use (past and present) and exposure to second-hand smoke as early as possible in the pregnancy and at every antenatal visit	- Healthcare providers should routinely offer advice and psychosocial interventions for tobacco cessation to all pregnant women who are either current tobacco users or recent tobacco quitters - Healthcare facilities should be smoke-free to protect the health of all staff, patients and visitors including pregnant women - Health-care providers should provide pregnant women, their partners and other household members with advice and information about

		the risks of second-hand smoke exposure from all forms of smoked tobacco
Substance Use	Health-care providers should ask all pregnant women about their use of alcohol and other substances (past and present) as early as possible in the pregnancy and at every antenatal visit	-Women are more likely to respond if asked each visit and after establishing trust -Pregnant women should be advised of the potential health risks to themselves and to their babies posed by alcohol and drug use -Health-care providers should be prepared to intervene or refer all pregnant women who are identified as using alcohol and/or drugs (past and present) -Refer to detoxification services and offer brief intervention when use has been identified
Ultrasound Scan	One ultrasound scan before 24 weeks of gestation (early ultrasound) is recommended for pregnant women to estimate gestational age, improve detection of fetal anomalies and multiple pregnancies, reduce induction of labor for post-term pregnancy, and improve a women's pregnancy experience	-Benefits of an early ultrasound scan is not improved upon and cannot be replicated with a late ultrasound scan -Introduction of ultrasound to detect pregnancy complications and confirm fetal viability to the woman and her family could increase ANC service utilization and reduce morbidity and mortality
Nausea and Vomiting	Ginger, chamomile, vitamin B6 and/or acupuncture are recommended for the relief of nausea in early pregnancy, based on a woman's preferences and available options	-Non-pharmacological options are unlikely to have harmful effects on mother and baby -Women should be informed that symptoms of nausea and vomiting usually resolve in the second half of pregnancy -Pharmacological treatments for nausea and vomiting should be reserved for those pregnant women experiencing distressing symptoms that are not relieved by non-pharmacological options under supervision of a doctor

Low Back Pain and Pelvic Pain	Regular exercise throughout pregnancy is recommended to prevent low back and pelvic pain. There are several different treatment options that can be used, such as physiotherapy, support belts and acupuncture, based on a woman's preferences and available options	-Exercise can take place on land or in water to prevent low back pain and pelvic pain -Regular exercise is a key component of lifestyle interventions -Inform pregnant women that symptoms usually improve in the months after birth -Women should be informed that it is unclear whether there are side-effects to alternative treatment options due to a paucity of data
Women Held Case Notes	It is recommended that each pregnant woman carries her own case notes during pregnancy to improve continuity and quality of her pregnancy experience.	-Benefits outweigh the disadvantages -Health-system planners should ensure that the contents of the case notes are accessible to all pregnant women using appropriate, local languages and appropriate reading levels
Recruitment and Retention of Staffing Remote and Rural Areas	Policymakers should consider educational, regulatory, financial, and personal and professional support interventions to recruit and retain qualified health workers in rural and remote areas	-Provide a good and safe working environment, including appropriate equipment and supplies, supportive supervision, and mentoring -Support the development of professional networks, rural health-care professional associations, rural health journals -Identify and implement appropriate outreach activities to facilitate cooperation between health workers from better-served areas and those in underserved areas, and where feasible, use tele-health to provide additional support

Adapted from *WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience, 2016.*

Summary

Due to maternal mortality being on the rise, it is important to look at all avenues that can improve mother-baby outcomes. A preventative intervention is to provide prenatal education. Utilizing various forms of education is the most beneficial in decreasing maternal mortality. Starting prenatal care early through preconception care can be one effective way to prevent and treat any complications early in the pregnancy phase and help to make healthy lifestyle changes. Community involvement with state policies can help to ensure that women know the importance of prenatal care and can even affect policy change, as well as looking at the demographics of other states. Group prenatal care used for prenatal education can be helpful to ensure that women understand what information is important and to feel involved in their care. Involvement of the family and support persons will also be a valuable educational tool.

Longer patient appointments with a primary care provider can be a method to ensure that proper educational information is provided. Education covering topics such as the potential for postpartum hemorrhage and the risks of high blood pressure are examples of prenatal education to discuss. Social media is a tool that can be utilized to share information both in prenatal and postpartum education. Postpartum discharge education will also be important in what to educate on signs and symptoms that need to be reported to the healthcare provider. Using the WHO's clinical practice guidelines will help to determine what needs to be discussed at appointments as well as what should be investigated to keep women and their babies healthy. There are various ways to ensure proper education is being provided. It is necessary to include both the patient and family

members in the prenatal and postpartum education to decrease maternal mortality and morbidity.

CHAPTER III

METHODS

It has been shown through the research that education in the antenatal, prenatal, intrapartum, and postpartum period can be helpful to decrease maternal mortality. It is important that those who are involved in the care of the pregnant patient provide proper education as well as understand possible risk factors that could predispose a pregnant person to morbidity and mortality so they can plan appropriate interventions. Focusing on what education is provided and how it is provided in various settings throughout a person's pregnancy will help the researcher to understand what information is being shared. This chapter outlines the design for this research project, as well as the population used, instruments, procedure, outcomes, and a plan for sustainability.

Project Design

Due to the increase in maternal mortality, it will be important to look at what antenatal, prenatal, intrapartum, and postpartum education look like from various settings. Assessing the World Health Organizations (WHO) clinical practice guidelines and appraisal can help to ensure positive pregnancy outcomes and a decrease in maternal mortality.

A descriptive research design was used for this study. A descriptive research design is "typically used to obtain information about a particular phenomenon or

characteristic of interest in an identified population in their natural setting" (Bloomfield & Fisher, 2019, p. 28). This project utilized an anonymous survey. A copy of the survey can be found in Appendix B. The survey was sent to local clinics in Bourbon, Crawford, and Vernon counties as well as to hospitals in Neosho and Crawford counties in the state of Kansas.

Sample/Target Population

The sample for this research project was physicians, nurse practitioners, registered nurses and licensed practical nurses who routinely educate and interact with the pregnant population. This researcher sent out surveys and questionnaires to local clinics and hospitals where pregnant women are routinely seen and deliver. Sampling was limited, and the counties chosen are due to proximity of the researcher. Counties in the state of Kansas include Neosho, Crawford, and Bourbon, while Vernon County will be included from the state of Missouri.

Inclusion criteria: 1) Providers must be licensed and practice in either the state of Kansas or the state of Missouri (Doctor of Medicine, Doctor of Osteopathic Medicine, Advanced Practice Registered Nurse, Registered Nurse, or a Licensed Practical Nurse); 2) They must be practicing in a clinic or hospital where the surveys are handed out; 3) They must work with the pregnant and postpartum population; 4) They must be able to read and understand English. Exclusion criteria: 1) Providers not licensed or practicing in either Kansas or Missouri; 2) Those not practicing in a clinic or hospitals where surveys are handed out; 3) Those who do not work with the pregnant and postpartum population; 4) Those who do not read or understand English.

Protection of Human Subjects

Study approval was obtained from the Pittsburg State University and the Irene Bradley School of Nursing Institutional Review Board (IRB). Once the study was approved and permission was obtained from the clinics and hospitals, the surveys were then handed out. The surveys were kept anonymous, and confidentiality was maintained. Participants were informed that the information from the study is for research purposes only, and that they could stop participating at any time. Surveys were placed in self-addressed stamped envelopes to ensure confidentiality and mailed to the researcher. The completed surveys were kept in a safe location and shredded once the research was complete.

Ethical Considerations

The surveys were kept anonymous and special consideration was taken to ensure the anonymity of the person participating in the survey. There are no ethical considerations as the surveys were handed out to adult providers about their specific practices and educational efforts with the pat1ient. Ethical concern regarding anonymity could be present, but it was ensured that all participants participate voluntarily and kept anonymous by using self-addressed envelopes that can be sealed.

Instrument

Paper surveys were distributed to participating clinics and hospitals. A cover letter was provided that explained the reason for the research and that participating is voluntary and anonymous. Demographic questions were asked, along with questions regarding the type of education provided at each appointment, or encounter, and what routine screenings were done at the appointments. Questions were both open-ended, and multiple

choice. Questions were reviewed to ensure validity by two health care providers and one statistician. The purpose of the survey was to understand what education is being provided and that those who work with the pregnant population understand when a situation is considered critical and could lead to the complications of the pregnant or postpartum patient.

Procedure

Surveys were hand delivered or mailed to the participating facilities. This researcher spoke with some of the participants and provided a cover letter to explain the survey and that it is voluntary and anonymous. A self-addressed stamped envelope was left for the participant to mail the survey back to ensure confidentiality of the person answering the survey. The researcher emailed and called after two weeks to ensure the surveys were not forgotten and were completed. Once all surveys returned, the data was then placed into Excel to be recorded and analyzed.

Treatment of Data

The objective of this survey was to understand what education is provided to patients, what the routine procedures during a prenatal visit/postpartum visit are, and to ascertain the knowledge of the provider and staff in a critical situation. The data that came from the questionnaires was used to understand aspects of prenatal and postpartum care from those who interact and educate the pregnant patient and their support persons. Findings will be shared with the participants if they ask for the results.

Plan for Sustainability

The cost of this project was minimal as it was just paper, stamps and envelopes. The providers and nurses should already be providing education. The importance is that

the education is being provided, including the more uncomfortable topics. Providers and staff should be able to recognize what should be done if a life-threatening situation were to arise and be able to help the patient know when something should be reported. Following the WHO guidelines, providing appropriate tests and appropriate education will help to decrease the chance of maternal mortality. With this research it is with hope that more studies can be done to pinpoint the best formula to ensure that women remain safe during pregnancy, during labor and delivery and after delivery.

CHAPTER IV

RESULTS

This chapter discusses the results from the study. The design that was used was a descriptive research design. A survey was sent to medical doctors, doctors of osteopath, advanced practice nurses, registered nurses, and licensed practical nurses who work with the pregnancy population in either a clinic or hospital to the following counties: Bourbon, Crawford, Neosho, and Vernon. The surveys were used to help understand what education was provided to the pregnant population through the hospitals and clinics that serve the pregnant population in the counties. A total of 40 surveys were sent out, with twenty surveys returned. Each of the following sections is based off research questions that were asked.

Description of Population

The study was started in October of 2021, after IRB approval, and completed in January of 2022. There was a total of 20 participants in the study with varying years of experience. Of the twenty participants, two were D.O.s, one a M.D., one a D.N.P., fifteen R.N.s and one L.P.N. This section shows a breakdown of those who filled out the survey. Thirty percent of those that worked with the pregnant population have done so for less than five years, while 20% have done so for 6-10 years, 15% have worked 11-15 years with the pregnancy population and another 15% have for 16-20 years, while 20% have

done so greater than 20 years (See Table 4.1 below). Forty percent of those who filled out the survey worked in Vernon County, 35% in Crawford County, 5% in Neosho County and 15% in Bourbon County. Fifty-five percent stated they worked in the hospital setting, while 15% worked in the family practice clinic, 15% in specialty clinic, and 15% stated to work in both hospitals and clinics.

Table 4.1

Demographics

How long have you worked with the pregnant population	Frequency	Percent
less than 5 years	6	30.0
6-10 years	4	20.0
11-15 years	3	15.0
16-20 years	3	15.0
More than 20 years	4	20.0
Total	20	100.0
What are your credentials		
MD	1	5.0
DO	2	10.0
RN	15	75.0
LPN	1	5.0
Other	1	5.0
Total	20	100.0
Where do you work?		
Clinic Family Practice	3	15.0
Clinic Specialty	3	15.0
Hospital	11	55.0
Both Clinic and Hospital	3	15.0
Total	20	100.0
What county do you practice in		
Bourbon	3	15.0
Crawford	7	35.0
Neosho	1	5.0
Vernon	8	40.0
Other	1	5.0
Total	20	100.0

Key Terms

Prenatal education was the main key term that was used throughout this scholarly project. Is has been established that education plays a role in helping to decrease maternal mortality and maintain a healthy pregnancy. Proper communication is also a key term that was discussed, and when looking at research questions can help to have the best

prenatal education. Looking at communication through different educational tools such as handouts and websites to provide prenatal education can help to keep the lines of communication open. Communication is also important when including the patient in their care with note taking and even a birth plan.

Analyses of Project Questions

Research Question 1. How much time do the providers and staff spend educating pregnant patients in the clinic setting and/or hospital setting?

Looking at Table 4.2 below, it is discussed on how much time is spent educating the pregnant population. There was a question for those who educate in the clinic setting and a question for those who educate in the hospital setting.

Table 4.2

Length of Educational Time for Clinic and Hospital Settings.

On a typical visit, how long do you spend each visit educating a pregnant patient in the clinic	Frequency	Percent
5-10 minutes	4	20.0
11-15 minutes	3	15.0
More than 15 minutes	1	5.0
NA	12	60.0
Total	20	100.0

On a typical visit, how long do you spend educating a pregnant patient in the hospital setting	Frequency	Percent
5-10 minutes	2	10.0
11-15 minutes	3	15.0
More than 15 minutes	11	55.0
NA	4	20.0
Total	20	100.0

For those respondents who worked in the clinic, the highest response for time spent on education was 5-10 minutes (20%). For those respondents who worked in a hospital, the highest response for time spent on education was more than 15 minutes (55%).

Research question 2. What are the topics that are discussed during an appointment with the pregnant patient and their support person by the provider and the staff?

Knowing what topics are discussed is also an important part of understanding what education is being given. In Table 4.3 below, a list of topics was provided, and the participants answered yes or no to what they covered.

Table 4.3

Education Topics Covered

	YES		NO	
	F	%	F	%
1. Nausea/vomiting	18	94.7	1	5.3
2. Gestational diabetes	17	89.5	2	10.5
3. Gestational hypertension	17	89.5	2	10.5
4. Signs and symptoms of preterm labor	19	100	0	0
5. Nutrition	17	89.5	2	10.5
6. Drug/alcohol use	18	94.7	1	5.3
7. Tobacco use	17	89.5	2	10.5
8. Ultrasound scan	16	84.2	3	15.8
9. Low back pain/pelvic pain	17	89.5	2	10.5
10. Lab work	19	100	0	0
11. Immunizations – (i.e., flu and tdap?)	18	94.7	1	5.3
12. Signs of complications – (i.e., increased bleeding, contractions)	19	100	0	0
13. Labor and delivery – when to come to hospital, signs to come into hospital for delivery, what to expect during delivery	19	100	0	0
14. Postpartum	17	89.5	2	10.5
15. Depression	17	89.5	2	10.5
16. Weight	6	31.5	13	68.5

Of the sixteen items for topics of education, most all were addressed except for weight; only six of the 20 respondents stated they discussed weight when interacting with the pregnant patient (See Table 3). There are other topics that were listed under other that were not specifically asked in the survey. One person stated they educated about neonatal stress test (NST), glucose test, and rho-gam administration. Another participant stated the education depended on admission of what was discussed. Still another cited educating on vaginal discharge and fetal movement. One person added that they educate on neonatal genetics testing. Preterm labor, pain, delivery and what the patient was admitted for was also discussed as things to educate on. Cesarean section, incision care, activity restrictions and signs and symptoms of infection was added in the other response of the question by one respondent.

Research Question 3. What do the providers/educators/nurses use as education tools that a patient can take with them?

It is also important to know how the information and education is provided. There are many different tools out there to utilize. Again, the participants were given a list of various tools to use to educate and responded with yes or no on what they used. It is shown in Table 4.4 below.

Table 4.4

Educational Tools Utilized

	YES		NO	
	F	%	F	%
1. Websites	7	35	13	65
2. Booklets	7	35	13	65
3. Handouts	20	100		
4. Prenatal Classes	13	65	7	35
5. Appointments	11	55	9	45

When asked about the type of education tools that they used to help educate the patient, 100% stated they use handouts, 65% use prenatal classes, 55% use appointments for education, while 35% use websites and booklets (See Table 4). Other methods that were mentioned by those who responded were teach back method, videos, and demonstration.

Research Question 4. Are the providers aware of the WHO's clinical practice guidelines, to stay up to date on recommendations during appointments?

One finding during the literature review was the recommendations from the WHO clinical practice guidelines. Knowing whether the participants have heard of the WHO clinical practice guidelines can help to determine what education is recommended to provided and to help guide those who serve the pregnant population in their interaction with the pregnant population. Table 4.5 looks at whether or not the participants are familiar with the WHO clinical practice guidelines.

Table 4.5

Familiarity with the WHO Clinical Practice Guidelines

	Frequency	Percent
Yes	11	55.0
No	9	45.0
Total	20	100.0

The findings for whether those who worked with the pregnant population were familiar with the World Health Organization (WHO) clinical practice guidelines with

antenatal care; 55% said they had heard of them and 45% said they had not heard of them.

Research Question 5. Do providers encourage the patient to educate themselves, to be a part of the care they receive and to ask questions?

It is found in the literature to involve patients in their plan of care, through note taking and it can even mean a birth plan. Table 4.6 asks whether they involve their patients, and the question asks why if they answer no.

Table 4.6

Involving Patients in Care

	Frequency	Percent
Yes	17	85.0
No	3	15.0
Total	20	100.0

When the doctors and nurses were asked about encouraging involvement in the plan of care, only three out of the twenty stated no. Those who answered no were asked to explain why they did not encourage involvement in their plan of care. One person stated they encouraged patients to ask questions, and they try to follow a birth plan to best of their ability. Another participant stated the reason they don't is because the patient is already in labor. And one participant did not answer the question.

Research question 6. Does the staff and provider feel comfortable with high-risk population and are equipped to handle an emergent situation?

Looking at Table 4.7 will show how prepared the staff feel with high-risk population during the various stages of pregnancy. The questions asked were based on

how well their place of employment keeps them equipped and up to date on education. Table 4.8 below, looks at how often the participants interacted with high-risk population.

Table 4.7

Preparation for High-Risk Population

	Mean	Std. Deviation
I believe that my place of employment is equipped for emergent, life-threatening situations that can impact the pregnant patient	3.70	1.261
I believe that my place of work requires up to date education on complications that can arise while pregnant and how to handle them to ensure patient safety?	3.90	1.210
I believe that my place of work requires up to date education on complications that can arise during labor and delivery and how to handle them to ensure patient safety?	3.85	1.182
I believe that my place of work requires up to date education on complications that can arise during postpartum period and how to handle them to ensure proper patient safety?	3.90	1.252

Note: Rating Scale Used Was 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5= strongly agree

A Likert scale was used to ask the participants how well they felt their place of employment is equipped when it comes to handling of high-risk population as well as how well they stay up to date with education of complications that can arise in pregnancy, labor, and delivery as well as postpartum. Responses were evaluated according to the following scores: Strongly disagree (0-1.49), disagree (1.5-2.49), neutral (2.5 – 3.49), agree (3.5-4.49) and strongly agree (4.5 – 5.49). The mean of 3.70 (S.D. = 1.261) for the question of whether the person feels that their place of employment was equipped for emergent, life-threatening situations indicates that most felt that their place of employment was equipped to handle life-threatening situations. When asked about the

required education that is provided to handle complications during the pregnancy period, the mean was 3.9 (SD=1.210), which indicates most agreed with this statement. Most agreed with a mean of 3.85 (SD=1.182) that their place of employment provides up to date education on complications that could arise during labor and delivery. The last question on handling complications during the postpartum period, also has a mean of 3.9 (SD = 1.252) and indicates that most agreed that their place of employment provided up to date education.

Table 4.8

How Often Do You Provide Care for High-Risk Populations?

N		Mean	Std. Deviation
Valid	Missing		
20	0	2.95	.887

Note: Rating Scale Used 1= Never, 2=Rarely, 3=Occasionally, 4=Often, 5=Nearly Always

When asked if the participants took care of high-risk patient population a Likert scale was used. Response evaluated from the following scores: Never (0-1.49), rarely (1.5-2.49). occasionally (2.5-3.49), often (3.5-4.49) and Nearly Always (4.5-5.49). The mean of this questions was 2.95 (SD=0.887) which implies that most of the participants felt that occasionally they took care of high-risk populations.

Research question 7. What tests are done at each appointment and through each stage of pregnancy by the provider and staff?

The questions over this section were split into five categories: Tests performed at every appointment, tests done throughout pregnancy, tests done while in labor, tests done during delivery and tests done postpartum.

When discussing tests that were performed at every appointment – the most common things done were weight and blood pressure. They also marked that medication history; allergies history, vaccine history, and smoking history were discussed at each appointment by one participant. Seven participants stated blood pressure at each appointment, while seven mentioned that weight was done at each appointment. A urine dip to screen for protein and sugar was noted by three participants, and fundal height and fetal heart tones were mentioned by four participants. Problems or complaints from the patient were discussed at each appointment, and another stated physical assessment at each appointment. One participant stated performing a depression screening, and eight did not answer the question at all. One person stated in a hospital they do weight/height, blood pressure, physical exam, cervical exam, external fetal monitoring/contraction pattern, health history and physical, and a urine dipstick for glucose. Another who worked in the hospital setting stated they do a depression screening and take blood pressure. One participant broke it up depending on how far along the expectant mother was: for the initial OB appointment stated lab work, ultrasound at 8 and 12 weeks in the office, anatomy scan at 22 weeks, quad screen at 15-19 weeks, tdap given at 30 weeks, glucose tolerance test, Cbc at 28 weeks, give RhoGAM shot if needed, and the group b strep test at 36 weeks.

When asked about special tests that were conducted throughout pregnancy the answers were mainly related to lab work. The lab work included: CBC, RPR, urine culture, Rh and blood type, STD screen, sonogram, glucose test, quad screen, CF carrier test, and fetal gender. Other lab tests mentioned were TSH, beta HCG, Hep B, Rubella, CMP. There were also weekly blood pressure checks as a response, as well as group B

strep swab and main ultrasound as well as pap smear and drug screen. Medications administered were Tdap and Flu vaccine. Six participants did not answer the question.

The third question on what special tests were done in labor had eight participants that did not answer. OF those that did answer, most of the answers included lab work which was CBC, BMP, type and screen, UA, ultrasound, drug screen, MRSA. Fetal monitoring was also mentioned as something done while in labor as well as contraction monitoring and vital signs.

What special tests are done during delivery had twelve respondents that did not answer or marked none. The respondents that did answer stated tests that were done during delivery include vital signs and lab work. Cord blood and cord gas were one of the lab tests done at delivery along with processing placenta and a CBC if indicated due to bleeding.

Of the tests that were done postpartum includes vital signs, blood work, depression screening, and human trafficking screening. Blood work mentioned is CBC, and fetal blood typing. At a six-week follow-up appointment a vaginal exam was done according to one participant. Six of the participants did not answer the question.

Summary

When looking at the answers to the questionnaire, it appears that most of those who participated feel prepared to take care of those in a high-risk population and provided a large assortment of education. Most of the answers matched from the various clinics, hospitals, and workers that were asked on what they educate with and regarding the pregnant population. Not all questions were filled out in each category, and the population was small. More than one-half were familiar with the WHO clinical practice

guidelines, and most of the participants involved the patient in their care and encouraged them to be involved.

CHAPTER V

DISCUSSION

The purpose of this scholarly project was to understand what education is being provided and that those who work with the pregnant population understand when a situation is considered critical and could lead to the complications of the pregnant or postpartum patient. Understanding what education is provided throughout pregnancy, during labor, delivery and postpartum will help to guide safe and healthy outcomes. This project also asked the question of how prepared those who are providing education and interact with a pregnant population feel should a serious situation arise.

Relationships of Outcomes to Research

Seven research questions were developed and used to ask questions on the questionnaire that was handed out. The first question was "How much time do the providers and staff spend educating pregnant patients in the clinic setting and/or hospital setting?" The questionnaire used two different questions – one for clinic and one for hospital setting. The questions were:

- On a typical visit, how long do you spend educating a pregnant patient in the clinic?
- On a typical visit, how long do you spend educating a pregnant patient in the hospital setting?

Out of the twenty participants for the clinic question, four answered 5-10 minutes (20%), three answered 11-15 minutes (15%), and one answered (5%) as more than fifteen minutes. The rest answered non applicable (60%). When looking at the hospital setting question, two (10%) stated they educated 5-10 minutes, three (15%) stated 11-15 minutes, and eleven (55%) stated more than 15 minutes. 4 (20%) of the 20 participants stated non applicable. This shows that patients are receiving more time in the hospital setting for education, compared to in the clinic. The clinic has more stating only 5-10 minutes, and the hospital has more than 15 minutes for education.

The second research question developed was "What are topics that are discussed during an appointment with the pregnant patient and their support person by the provider and the staff?" This question listed different subjects and had a yes/no response. There was also a spot to mark other if it wasn't listed. One person out of twenty did not answer either yes or no to any of the topics. When looking at the responses, participants answered they covered the topics of signs and symptoms of preterm labor, lab work, signs of complications and labor/delivery 100% when providing education. With nausea/vomiting, drug/alcohol use and immunizations at 94.7% of people discussing coming in second, and gestational diabetes, gestational hypertension, nutrition, tobacco use, low back pain/pelvic pain, postpartum and depression coming in third for topics discussed at 89.5%. The answers to this question show that staff and those that provide education provide a variety of education and focus on subjects that are important in pregnancy to recognize and understand. The research has shown that it is important to discuss the problems that can arise during and after pregnancy, and all the participants stated that they do discuss the complications. It is also important to note that postpartum

education was discussed by 89.5% of the participants, and it has been shown in research that a lot of women are not aware of their health needs postpartum, so it is important that this topic is educated upon.

The third research question looked at the different tools that are used to educate the pregnant patient. They were able to say yes or no to five different choices on the educational tools that are used. All participants (100%) stated they use handouts, while 65% use prenatal classes, 55% use appointments to educate, 35% stated they used booklets, and another 35% stated they used websites. There were a few that added other methods such as teach-back method, videos, and demonstrations. The answer to this question shows that those providing education utilize various methods to get the education across, and that there isn't one way to provide the education that is needed to the pregnant patient and their support persons.

The fourth question looked at whether those who provide the education are familiar with the WHO's clinical practice guideline. Those who were familiar were at 55% and those who were not were at 45%. This is an area where education to the staff can be important and help them understand and utilize the WHO's recommendations for clinical practice guidelines. This can help those who provide care and education to pregnant women stay up to date on the latest practice and recommendations.

The fifth research question asked, "Do providers encourage the patient to educate themselves, to be a part of the care they receive and to ask questions?" The question on the survey breaks it down to include note taking and/or a birth plan. Of the twenty participants, 17 (85%) said yes. This is one of the recommendations of the World Health Organizations clinical practice guidelines, to encourage participation and note taking. It is

imperative that patients feel heard and important. It is also important that they understand the education that is provided.

The sixth research question, “Does the staff and provider feel comfortable with high-risk population and are they equipped to handle an emergent situation?” is an important question to know how the staff feels about their own abilities, and how prepared their place of employment makes them. The questions that were asked used a Likert rating scale of strongly disagree, disagree, neutral, agree and strongly agree.

- I believe that my place of employment is equipped for emergent, life-threatening situations that can impact the pregnant patient.
- I believe that my place of work requires up to date education on complications that can arise while pregnant and how to handle them to ensure patient safety.
- I believe that my place of work requires up to date education on complications that can arise during labor and delivery and how to handle them to ensure patient safety.
- I believe that my place of work requires up to date education on complications that can arise during postpartum period and how to handle them to ensure proper patient safety.

For the questions that address how equipped the place of employment was the mean was 3.7 indicating that most participants agreed. There was a mean of 3.9 for the question on up-to-date education for pregnant women, also showing agreement. When asked about up-to-date education for those in labor and at delivery the mean was 3.85, which is agreement that they believe their place employment provided up-to-date education. The last question asked about up-to-date education provided for the

postpartum period, and it also had a mean of 3.9, indicating agreement. This is important that those who provide education and care to the pregnant population feel prepared to do so if an emergent situation arises. It is also good to know that most of the participants felt that their own place of employment keeps them educated. This is one great way to decrease the possibility of a serious complication and thus decrease maternal mortality.

The seventh and final research question asked, "What tests are done at each appointment and through each stage of pregnancy by the provider and staff?" There were five categories: tests performed at every appointment, tests done throughout pregnancy, tests done while in labor, tests done during delivery and tests done postpartum. It is important to look at what is done by each participant at the different stages in pregnancy. Not everyone answered each question depending on the category. It will be important to use this information, to show that not all providers run the same tests at the same time, and that not all those who interact with the pregnancy population as their job know or do the same tests and same things. A cohesive plan of care can ensure the best care by all the work in the healthcare industry with pregnant patients.

Observations

The results from this questionnaire that was provided shows that more time needs to be spent with the patient to provide education in the clinical setting, and to make sure that those who provide the education are aware of the WHO's clinical practice guidelines. WHO's clinical practice guideline is a great resource to utilize for not only what topics to discuss but also how to involve patients in their care and feel important and have a sense of control.

Evaluation of Theoretical Framework

Roy's adaptation model of nursing was the theoretical framework chosen for this scholarly project. The theory discusses how people can adapt to their changing environment and health, which is what pregnancy is. It is a change to environment and health and therefore needs to be adapted to. This theory works well with prenatal education and pregnancy, especially with the assumptions that are the focus of this scholarly project. The assumptions identified for this project are the following:

- To come with a changing world, a person uses coping mechanisms, both innate and acquired, which are biological, psychological, and social.
- To respond positively to change a person must adapt; nursing accepts the humanistic approach of valuing other opinions and perspectives, so a person's values and opinions should be considered and respected.

The responses to the survey, especially when asked research question number five, "Do providers encourage the patient to educate themselves, to be a part of the care they receive and to ask questions?", shows that there is adaptation by the nurses and providers to the patients. A majority answered yes to involving the patients and even encouraging note taking and birth plans. Of the three that answered no they went on to explain that they do try to follow requests and birth plans to the best of their ability, or that they were already in labor.

Evaluation of Logic Model

A logic model was used for this project composed of two parts and was discussed in chapter one of this scholarly project. The first part of the logic model was very helpful to determine what education should be given to those that provide care to the pregnant

population, such as education on risk factors for maternal mortality, including annual education as a requirement and include pretests and posttests to gauge what has been learned. The second part of the logic model is education that is provided to the pregnant population. It includes access to resources. As demonstrated in the questionnaire every participant put that they used resources to help ensure proper education. It would be helpful to survey pregnant women and their support persons to see how much they have learned before and during pregnancy as well as postpartum. It will also be beneficial to know that they felt supported and heard throughout their pregnancy journey.

Limitations

Limitations of this study include the small sample size that was used to do the research, as there were only 20 participants. Only four rural counties were sent the questionnaire, which also shows a limitation to the research. Only one participant answered at one of the locations; having more involvement can help researchers understand how that county and the employees view their preparation for critical situations as well as the education that is provided to the patient. It would also be beneficial to focus on just the clinic setting and just the hospital setting for what is provided in terms of tests and assessments, since different areas will do different things. Offering the questionnaire to both places in the same study can make it hard to differentiate what is being done and why.

Time constraint is another limitation, it would be beneficial to have more time to ensure that education to the staff could be provided regarding the WHO clinical practice guidelines. Additional time would also help to have more understanding of to what level the staff feels they are prepared in a critical situation and knowing the education they

must do per their facility's requirements. Understanding the quality of the education that is provided and not just what education is done would help and more time and evaluation would help.

It would also be beneficial to follow through with the patients that are seen in the counties that were evaluated. Understanding what the patient and their family understands and recognizes by the education that is provided can help to know how much quality there is to it. Also, it would be beneficial to know that the patients feel involved in their care and heard when they feel a complication or sign of an issue arises.

Implications for Future Projects/Research

Utilizing the results from the scholarly project, the next steps would indicate breaking down the research to include just those in the clinic and just those in the hospital. Future research could be more detailed on what and when education is being done throughout the pregnancy. Understanding that every appointment might not include all the education but different education at different times will help to know the quality of education that is provided. Hanell (2018), talks about the importance of prenatal and postpartum education at any time during a visit and even hitting on uncomfortable topics.

Looking at the facility the workers are at and evaluating the required education and preparedness for a critical event will be important in decreasing maternal mortality. It is important to know that they are prepared and not just feel prepared as some of the questions ask on the questionnaire. This will involve looking at the required education the staff must take and evaluating the staffs knowledge after doing the education. Also, future research can look at the unit and the equipment they must have to be prepared in

the event of an emergent and life-threatening situation, along with policies in place should it arise.

Another thing to research in terms of prenatal education, is surveying the patient. Giving a survey to the pregnant patient at the beginning and at the end can help to know that the education that was provided was understood. This will also help the researcher to understand and know if the patient felt heard and valued. Researchers can even get an opinion from the patient as to what forms of education they prefer, such as handouts, apps, or classes. This can help to know the best and most informative way to provide the up-to-date education to ensure understanding.

Implications for Practice/Health Policy/Education

This scholarly project really shows that more time needs to be spent with the pregnant patient in the clinical setting. The literature shows that education is an important part of prenatal care, even amongst those who are not pregnant yet to make healthier lifestyle choices (Frayne, 2017). Frayne (2017) states that prenatal office visits should have education to help lead to living healthier lifestyles and lead to fewer interventions during delivery. This indicates that education in the clinic should last longer than 5-10 minutes to ensure enough time is being spent in providing the best education and giving time for patients to ask any questions and participate in their care. The literature also talks about using nurse practitioners as educators because they tend to have longer visits (Bruyere, 2011). When doing the research, only one of the participants is a nurse practitioner. Bruyere (2011) talks about how utilizing an NP can create a cohesive message and cover all important topics. Group prenatal care is another way to ensure longer visits and has NPs as the person that leads the groups and provides the education.

Women also state they feel more empowered and heard with group prenatal care (Chae, Chae, Kandula & Winter, 2017).

The WHO clinical practice guidelines also indicate the importance of retaining qualified staff by providing proper equipment and support from supervisors and mentors. The WHO clinical practice guidelines are an important tool to use in the clinic and hospital setting because they have many recommendations of what to discuss to ensure a positive pregnancy experience. Utilizing the practice guidelines to educate the staff on what is important to educate to the patient and the specifics of what to include is beneficial.

Conclusion

The purpose of this scholarly project was to show that education is an important part of the care that is provided to pregnant women, women during labor, delivery and postpartum. This project surveyed those who provide care and education to those who are pregnant and postpartum. There were various answers on the education that is provided, what different resources are used to provide the education and even how long they spend educating the patient. It is shown that education is a wonderful tool to help recognize signs and symptoms of a complication and in turn reduces maternal mortality. It is important to know what education is provided and how knowledgeable those that provide education are and how prepared they feel if an emergent situation arise. There is still more than can be researched and done to ensure that the most up to date information is being shared and understood.

References

AGREE Next Steps Consortium (2009). *The AGREE II Instrument* [Electronic version]. Retrieved <June 20, 2019>, from http://www.agreetrust.org.

Artieta-Pinedo, I., Paz-Pascual, C., Grandes, G., & Espinosa, M. (2017). Framework for the establishment of a feasible, tailored and effective perinatal education programme. *BMC Pregnancy and Childbirth*, *17*(1). 264-277. 10.1186/s12884 017-1234-7

Asamoah, B. O., Agardh, A., Pettersson, K. O., & Östergren, P. O. (2014). Magnitude and trends of inequalities in antenatal care and delivery under skilled care among different socio demographic groups in Ghana from 1988 - 2008. *BMC Pregnancy and Childbirth*, *14*. 295. 10.1186/1471-2393-14-295

Bellieni, Carlo & Ceccarelli, D & Rossi, F & Buonocore, Giuseppe & Maffei, M & Perrone, Serafina & Petraglia, Felice. (2007). Is prenatal bonding enhanced by prenatal education courses? *Minerva Ginecologica 59*. 125-129

Bingham, D. & Cornell, A. (2019, May). Expert panel to track nurses' effect on maternal morbidity and mortality. *Journal of Obstetrical Gynecological Neonatal Nursing 45*(6). 861-864. http://doi.org/10.1016/jogn-2016.05.008

de Brito, C.A., Silvanete Saraiva Silva, A., de Sa Barreto Luna Callou Cruz, R., & de Lima Pinto, S. (2015). Puerperal women's perceptions regarding preparation for birth inprenatal care. *Rev Rene, 16*(4), 470-478. https://doi.org.library.pittstate.edu/10.15253/2175-6783.2015000400003

Bruyere, M. (2011). An examination of the role of nurse practitioners in prenatal counseling. *International Journal of Childbirth Education 26*(4), 40-43

Centers for Disease Control and Prevention (2000). *Entry into prenatal care- United States 1989-1997*. Retrieved from https://www.cdc.gov/mmwr/preview/mmwrhtml/mm4918a1.htm

Centers for Disease Control and Prevention (2019, May). *Vital signs: pregnancy related deaths*. Retrieved from https://www.cdc.gov/vitalsigns/maternaldeaths/index.html

Choudhury, R., & Danawi, H. (2019). Michigan's mother infant health improvement plan for the years of 2019-2022. *International Journal of Childbirth Education 34*(1). 32-33

Cunningham, S., Grilo, S., Lewis, J., Novick, G., Rising, S., Tobin, J., & Ickovics, J. (2017). Group prenatal care attendance: Determinants and relationship with care satisfaction. *Maternal Child Health Journal 21*. 770-776. DOI: 10.1007/s10995-016-216-3

Dahlem, C., Villarruel, A., & Ronis, D. (2015). African American women and prenatal care: perceptions of patient-provider interaction. *Western Journal of Nursing Research 37*(2). 217-235. Doi:10.1177/0193945914533747

Dalton, J., Rodger, Ds., Wilmore, M., Humphreys, S., Skuse, A., Roberts, C., Clifton, V. (2018). The Health-e Babies App for antenatal education: Feasibility for socially disadvantaged women. https://doi.org/10.1371/ journal.pone.0194337

Frayne, D.J. (2017). A paradigm shift in preconception and interconception care. *Zero to Three 37*(4), 4-13.

Frazer, C., Hussey, L, Bosch, E., & Squire, M. (2015). Pregnancy Apps: A closer look at the implications for childbirth educators. *International Journal of Childbirth Education 30*(3), 12-16.

Godin, K., Alton, G, Gangodawilage, H., Procter, T., Bourdages, N., Blue, S., Edwards, S., & Horan, M., (2015). Knowledge change associated with participation in prenatal education programs in Ontario: A cohort study. *Canadian Journal of Public Health 2015 106*(6), 401-407. Doi:10.17269/CJPH.106.5057

Hanell, L. (2018). Anticipatory discourse in prenatal education. *Discourse & Communication 12*(1), 3–19. 10.1177/1750481317735708

Hassan, J. (2016). Prenatal Education and Postpartum Well-being. *Journal of Pregnancy and Child Health 3*(2), 2-6. DOI: 10.2172/2376-127X.1000248

Herberlein, E., Picklesimer, A., Billings, D., Covinton-Kolb, S., Farber, N. & Frongillo, E. (2016). Qualitative comparison of women's perspectives on the functions and benefits of group and individual prenatal care. *Journal of Midwifery & Women's Health 61,* 224-234. https://library.pittstate.edu:2086/10.1111/jmwh.12379

Jain, J.A., Temming, L.A., D'Alton, M.E., Gyamfi-Bannerman, C. Tuuli, M., Louis, J.M., Sindu, S., Caughey, A., Grobman, W., Hehir, M., Howell, E., Saade, G., Tita, A. & Riley, RL.E. (2018). SMFM special report: putting the "M" back in MFM: reducing racial and ethnic disparities in maternal morbidity and mortality: A call to action. Doi://doi-org.library.pittstate.edu/10.1016/j.ahig.2017.11.59

Krysa, J., Iwanowicz-palus, G., Bien, A., Rzonca, E., Zarajczyk, M. (2016). Antenatal Classes as a form of preparation for parenthood: analysis of benefits of

participating in prenatal education. *Pol J Public Health 2016, 126* (4), 192-196. DOI: 10.1515/pjph-2016-0040.

Lori, J.R., Ofosu-Darkwah, H., Boyd, C.J. Banerjee, T., & Adanu, R. (2017). Improving health literacy through group antenatal care: a perspective cohort study. *BMC Pregnancy Childbirth 17*, 228. https://doi.org/10.1186/s12884-017-1414-5

March of Dimes (n.d.). *Prenatal education*. Retrieved from https://www.marchofdimes.org/mission/prenatal-education-and-outreach.aspx

Martin, N. (2017, May 12). The last person you'd expect to die in childbirth. Retrieved from https://www.npr.org/2017/05/12/527806002/focus-on-infants-during childbirthleaves-usmoms-in-danger

Mastnak, W. (2016). Prenatal music therapy and antenatal music classes: Principles, mechanisms and benefits. *The Journal of Perinatal Education, 25*(3), 184.

McKee, C., Stapleton, P., & Pidgeon, A. (2018). History of Pre and Perinatal (PPN) Parent Education: A Literature Review. *Journal of Prenatal and Perinatal Psychology and Health. 32*(3). 191-219.

Merewood, A. Prenatal Education: Timing it Right. (2014) *Journal of Human Lactation. 30*(2). 133. Doi: 10.1177/0890334I4525567

Merriam Webster Dictionary (n.d.) Education. In *Merriam-Webster dictionary*. Retrieved April 1, 2020., http://www.merriam-webster.com/dictionary/education

Meyer, E., Hennink, M., Rochat, R., Julian, Z., Pinto, M., Zertuche, A., Spelke, B., Dott, A., Cota, P. (2016). Working towards safe motherhood: delays and barriers to prenatal care for women in rural and peri-urban areas of Georgia. *Maternal &*

Child Health Journal, *20*(7), 1358–1365. https://doi org.library.pittstate.edu/10.1007/s10995-016-1997-x

Nelson, D., Moniz, M., Davis, M. (2018). Population-level factors associated with maternal mortality in the United States 1997-2012. *BMC Public Health. 18.*1-7. https://doi.org/10.1186/s12889-018-5935-2

Office of Women's Health (n.d.) Prenatal Care. Retrieved May 19, 2020 from https://www.womenshealth.gov/a-z-topics/prenatal-care

Online Etymology Dictionary (n.d.) Prenatal. In *Online Etymology dictionary.* Retrieved April 1,2020 from http://www.etymonline.com/prenatal

Oxford English Dictionary (n.d.) Education. In *Oxford English dictionary.* Retrieved April 1, 2020 from http://www.oed.com/education.

Oxford English Dictionary (n.d.) Prenatal. In *Oxford English dictionary.* Retrieved April 1, 2020 from http://www.oed.com/prenatal

Oxford Dictionaries. (n.d.). Communication. Retrieved from https://languages.oup.com

Oxford Dictionaries. (n.d.). Perception. Retrieved from https://languages.oup.com

Petiprin, A. 2016. Roy's Adaptation Model of Nursing. http://nursing-theory.ort/theories-andmodels/roy-adaptation-model.php

Roch, G., Borges Da Silva, R., de Montigny, F. O'Witteman, H. Pierce, T., Semenic, S., Poissant, J., Parent, A., White, D., Challet, N., Dubois, C., Ouimet, M., Lapointe, G., Turcotte, S., Prud'homme, A., Guerard, G., & Gagnon, M. (2018). Impacts of online and group perinatal education: a mixed methods study protocol for the optimization of perinatal health services. *BMC Health Services Research, 18,(382),* 18.https://doi.org/10,1186/s12913-018-3204-9

Rowley, R., Phillips, L. O'Dell, L., Husseini, R., Carpino, S., & Hartman, S. (2016). Group prenatal care: A financial perspective. *Maternal Child Health Journal, 20,* 1-10. 10.1007/s10995-01501802-2

Shimpuku, Y., Madeni, F., Horiuchi, S., Kubota, K., & Leshaban, S. (2019). A family oriented antenatal education program to improve birth preparedness and maternal infant birth outcomes: A cross sectional evaluation study. *Reproductive Health. 16*(107), 1-10. https://doi.org/10.1186/s12978-019-0776-8

Stadtlander, L. (2016). Women's health behaviors with unintended pregnancy and births. *International Journal of Childbirth Education.* 31(3). 34-36.

Suplee, P., Kleppel, L., & Bingham, D. (2016). Discharge education on maternal morbidity and mortality provided by nurses to women in the postpartum period. *Association of Women's Health, Obstetric and Neonatal Nurses, 45,* 894-904. http://dx.doi.org/10.1016/j.jogn.2016.07.006

Weatherspoon, D., Weatherspoon, C., & Ristau, C. (2015). Speaking their language: integrating social media into childbirth education practice. *International Journal of Childbirth Education. 30*(3). 21-24

World Health Organization (2016). *WHO recommendations on antenatal care for a positive. Pregnancy experience. Luxemborg.* https://apps.who.int/iris/bitstream/handle/10665/250796/9789241549912eng.pdf;sessiod=AACB3ECEEBC8155FC31AAE00522FAA6E?sequence=1

Appendix

Cover Letter

Dear Participant,

I invite you to participate in a research project related to pregnancy education in rural areas. I am currently enrolled in the Doctor of Nursing Practice program at Pittsburg State University in Pittsburg, KS and completing my scholarly project. The purpose of this research is to understand what education is provided during a prenatal and postpartum visit in the clinic setting as well as the education provided in the hospital or any time a provider or nurse interacts with a pregnant patient.

Your participation in this research project is completely voluntary. You may decline to participate or leave any questions blank that you don't wish to answer. Your answers will remain confidential and anonymous. Data from this research will be kept in a secure location and reported as aggregated data as it pertains to this research project.

Please answer the questions on the survey to the best of your ability. The survey should take approximately five minutes to complete. Please return the completed survey in the enclosed envelope.

Thank you for your time and support.

Sincerely,

Kayla Tinsley BSN, RN, DNP student

Pregnancy Education Questionnaire

1. On a typical visit, how long do you spend educating a pregnant patient in the clinic?
   a. None
   b. 5-10 minutes
   c. 11-15 minutes
   d. More than 15 minutes
   e. N/A

2. On a typical visit, how long do you spend educating a pregnant patient in the hospital setting?
   a. None
   b. 5-10 minutes
   c. 11-15 minutes
   d. More than 15 minutes
   e. N/A

3. What topics do you cover when you educate? (select all that apply)
   a. Nausea/vomiting
   b. Gestational diabetes
   c. Gestational hypertension
   d. Signs and symptoms of preterm labor
   e. Nutrition
   f. Drug/alcohol use
   g. Tobacco use
   h. Ultrasound scan
   i. Low back pain/pelvic pain
   j. Lab work
   k. Immunizations – (i.e., flu and tdap?)
   l. Signs of complications – (i.e., increased bleeding, contractions)
   m. Labor and delivery – when to come to hospital, signs to come into hospital for delivery, what to expect during delivery
   n. Postpartum
   o. Depression
   p. Weight
   q. Other, please specify
      _____

4. Are you familiar with the World Health Organization (WHO) clinical practice guidelines for antenatal care?
   a. Yes
   b. No

5. Do you involve the patient in their plan of care plan, such as encourage note taking or making a birth plan?
   a. Yes
   b. No, and please explain why_____

6. Do you take care of high-risk patient population?

Never Rarely Occasionally Often Nearly Always

7. Please describe what education that you feel is necessary to provide to the pregnant population and their families to help decrease maternal mortality:

8. I believe that my place of employment is equipped for emergent, life threatening situations that can impact the pregnant patient.

Strongly disagree Disagree Neutral Agree Strongly agree

9. When providing education, what formats are utilized? Select all that apply:
   a. Websites
   b. Booklets
   c. Handouts
   d. Prenatal Classes
   e. Appointments – in person education
   f. Other, please specify_____

10. I believe that my place of work requires up to date education on complications that can arise while pregnant and how to handle them to ensure patient safety?

Strongly disagree Disagree Neutral Agree Strongly agree

11. I believe that my place of work requires up to date education on complications that can arise during labor and delivery and how to handle them to ensure patient safety?

Strongly disagree Disagree Neutral Agree Strongly agree

12. I believe that my place of work requires up to date education on complications that can arise during postpartum period and how to handle them to ensure proper patient safety?

Strongly disagree Disagree Neutral Agree Strongly agree

13. State what tests are performed at every appointment (i.e., lab work, weight, blood pressure, depression screening)

14. What special tests are done throughout the pregnancy?

15. What special tests are done while in labor?

16. What special tests are done during delivery?

17. What special tests are done postpartum?

18. How long have you worked with the pregnant population?
    a. Less than 5 years
    b. 6-10 years
    c. 11 – 15years
    d. 16-20 years
    e. More than 20 years

19. What are your credentials?
    a. MD
    b. DO
    c. APRN
    d. RN
    e. LPN
    f. Other please specify_____

20. Where do you work?
    a. Clinic
        i. Family practice
        ii. Specialty
    b. Hospital
    c. Both
    d. Other please specify_____

21. What county do you practice in?
    a. Bourbon
    b. Crawford
    c. Neosho
    d. Vernon
    e. Other, please specify_____