

UTILIZING VIDEO EDUCATION TO INCREASE KNOWLEDGE AND
AWARENESS OF PERINATAL ANXIETY AND DEPRESSION

by

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As members of the DNP Project Committee, we certify that we have read the DNP project prepared by Mallory Leigh Ketterer, titled Utilizing Video Education to Increase Knowledge and Awareness of Perinatal Anxiety and Depression and recommend that it be accepted as fulfilling the DNP project requirement for the Degree of Doctor of Nursing Practice.

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DEDICATION

*I dedicate this project to my beautiful daughter, Quincy Leigh Ketterer. Thank you for being my
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ABSTRACT

Purpose: The purpose of this doctor of nursing practice project was to increase patient awareness and knowledge of perinatal anxiety and depression through video education. By providing information on the risk factors, signs and symptoms of anxiety and depression, activities to prevent/reduce symptoms, and local resources, the project aimed to encourage women and their families to discuss maternal mental health and seek help if needed.

Background: Pregnancy and postpartum increases a women's vulnerability for developing a mood disorder due to the significant physiological and psychological changes that accompany having a baby. Mood disorders can greatly impact the mothers' and family's health if untreated. The societal stigma of mental health and varying practices of mental health assessment and identification results in underreporting. The complexity of perinatal anxiety and depression increases the need for healthcare providers to educate mothers and their families so that they are informed and can take action to gain mental health support.

Methods: Clients from a local breastfeeding and postpartum support center were recruited to watch an educational video on perinatal anxiety and depression via an established online Facebook group. Participants watched the video and completed a pre- and post-survey that assessed awareness, knowledge, confidence, and likeability of the video format on an online research project platform.

Results: Twelve participants accessed the project site and completed the demographic questionnaire as eight participants completed the pre-survey, video, and post-survey. No statistically significant differences were found, however, increases in agreement responses after

the video education intervention were noted on the post-surveys in seven out of the eight participants.

Conclusions: The video education was effective in increasing some knowledge of perinatal anxiety and depression and confidence to seek help. Participants reported that the video was interesting and that they preferred this method of education compared to written material.

Limitations surrounding the small sample size and impacts of the COVID-19 pandemic are reviewed. Future research should include employing the video education created in this project in different clinical settings to determine its impact on maternal mental health outcomes.

INTRODUCTION

Pregnancy is thought to be an exciting, positive, major life event for women and their families. However, complex biological processes and physiological changes during pregnancy pose an increased vulnerability for the development of mood disorders and mental health issues among pregnant women (Deklava et al., 2015). Mood disorders such as anxiety and depression are the number one medical complication during pregnancy and after childbearing (Committee on Obstetrics Practice, 2018). In the United States (US), almost half a million infants are born each year to mothers who have underlying depression (Earls, 2019). Nearly 12% and 13% of women report experiencing depression and anxiety respectively, either with symptoms presenting individually or simultaneously during their pregnancies (Lydsottir et al., 2014; Rees et al., 2019; Wisner et al., 2013). Mild mood disturbances during pregnancy are often attributed to the physical, hormonal fluctuations and feelings of stress, fear, and uncertainty that arise when undergoing personal health changes and preparing for a new baby (Deklava et al., 2015). Often, it is difficult for pregnant women to differentiate between expected or “normal” levels of psychological changes versus those that can become dangerous to mother and baby warranting more proactive treatment (Misri et al., 2015). Currently, there is no identified, universal standard assessment and screening practice for perinatal anxiety and depression (Selix et al., 2016). This gap in literature requires healthcare organizations and individual practitioners to formulate their own initiatives and programs to address maternal mental health. Therefore, educating women of potential mental health conditions assist in positively adapting to the role of motherhood while promoting optimal mental and physical well-being.

Background Knowledge

Mental health issues can arise at any point during the perinatal time period (i.e., time span beginning at the onset of pregnancy and continuing until the first year after birth) (Deklava et al., 2015). Approximately 20% of women begin to experience red flag symptoms during pregnancy, of which 50% remain undiagnosed and do not receive treatment (Fairbrother, 2016; Ko et al., 2012; Luca et al., 2019). Mood disorders such as anxiety and depression receive less consideration during pregnancy than in postpartum due to focusing on physiological changes as the cause of emotional conditions (Biaggi et al., 2016). Additionally, most research focuses on the psychological assessment and use of screening measures to diagnose anxiety and depression during the postnatal stage rather than during pregnancy (Hiremath, 2016; Uguz et al., 2019). The majority of studies reviewing web-based interventions aimed at preventing perinatal mood disorders are conducted during postpartum (Lee et al., 2016). Perinatal mood disorders have also received decreased attention due to the underreporting and lack of open acknowledgement of symptoms by women due to the perceived societal expectations of pregnancy and motherhood (Biaggi et al., 2016).

Perinatal mental health is a growing public health concern due to its known negative effects on health outcomes (Fairbrother, 2016). If anxiety and depression symptoms are left untreated, the physical and psychological health outcomes of the mother, baby, and family are compromised (Fairbrother, 2016). Women who experience continuous anxiety symptoms during pregnancy are more likely to develop postpartum depression or psychosis, and one in five postpartum deaths are due to maternal suicide (Gaillard, 2014; Lindahl et al., 2005). Death by suicide by means of drug overdose is the second most common cause of maternal mortality

during postpartum and 9% of reported preventable maternal deaths are related to mental health disorders (Davis, et al., 2019; Goldman-Mellor & Margerison, 2019; Metz et al., 2016; Smid et al., 2019). About half of women suffering from postpartum depression go undetected during clinic visits (Metz et al., 2016). Therefore, healthcare providers must educate their patients and support their mental health as early as possible, including throughout the perinatal time period, to promote positive health outcomes.

Prevalence and Risk Factors

All women, particularly those of childbearing age, are vulnerable for experiencing mental health disorders (US Preventative Task Force, 2016). Women are two times more likely than men to develop mental health disorders in their lifetime (Kuehner, 2017). Anxiety and depression issues are found among both pregnant and postpartum women across the globe (World Health Organization [WHO], 2020). Anxiety and depression are known to be common experiences as one in five women will struggle with their mental health at some point during the perinatal period (Dennis et al., 2017; Fairbrother, 2016). Some studies determine antenatal anxiety and depression symptoms decrease throughout pregnancy as others reported a rise in mood alteration symptom onset later in the third trimester of pregnancy and postpartum (Bennett et al., 2004; Gavin et al., 2005; Dennis et al., 2017).

There are multiple factors contributing to perinatal mood disorders. Previous psychological impairment history is the primary risk factor for developing anxiety and/or depression during pregnancy or postpartum (Biaggi et al., 2016). Other risk factors include substance abuse, lack of a social support network, low income, and medical complications (Biaggi et al., 2016). The prevalence and extensive risk factors of threats to positive mental

health warrants developing educational tools aimed at informing and preparing mothers and their families about mental health risks during pregnancy and postpartum.

Consequences of Under-recognition and Under treatment

Untreated mood disorder symptoms have adverse physiological effects on the health of both mother and child, including an increased risk of health complications due to repeated feelings of stress and anxiety beginning during pregnancy (Zietlow et al., 2019). The mother is less likely to be active in prenatal care and more likely to participate in unsafe health practices such as smoking and alcohol use, which further contribute to impaired fetal physiological development (Marcus, 2009). Maternal anxiety can also lead to preterm labor, pregnancy complications (i.e., preeclampsia, uterine growth restrictions), and increased cesarean section rates (Qiao et al., 2012; Rubertsson et al., 2014; Staneva et al., 2015). High cortisol levels secreted during mood alterations have been shown to impede essential blood flow to the fetus resulting in decreased cognitive development functioning in utero and later in childhood (Bergman et al., 2010; Glover, 2015). Infants of mothers with untreated mood disorders extending into the postpartum period are more likely to experience developmental and growth delays or eating disorders (Lampard et al., 2014; Surkan et al., 2012). Additionally, younger children of mothers with untreated mood disorders are at increased risk for cognitive alterations such as attention deficit hyperactive disorder (ADHD) and the development of mental issues such as depression, bipolar, or schizophrenia (Brannigan et al., 2019; Pearson et al., 2013).

Perinatal anxiety and depression correlate with mental health issues transcending into postpartum (Coelho, Murray, Royal-Lawson, & Cooper, 2011). Postpartum mothers who experienced mood disorders during pregnancy reported impaired maternal-infant bonding (Hayes

et al., 2013; Rossen et al., 2016). Difficulties with breastfeeding and lack of attention to child wellness visits and health maintenance (i.e., vaccinations) are also more prevalent among mothers who have underlying anxiety and depression symptoms (Dennis & McQueen, 2009; Dias, 2015; Field, 2010; Minkovitz et al., 2005). Perinatal mood symptoms are associated with relationship strain and increased risk for domestic violence between mother and partner, ultimately negatively affecting the child and family unit (Howard et al., 2013). Therefore, early symptom identification and treatment are critical in prenatal care or early postpartum to prevent negative outcomes, both physically and mentally.

Screening

Although perinatal mental health is acknowledged as an important national and public health issue, there are currently no set national screening and assessment standards in place in the United States (Rhodes & Segre, 2013; Selix et al., 2016). In response to the prevalence of perinatal mood disorders, national organizations created recommendations to support maternal mental healthcare. The American College of Obstetricians and Gynecologists (ACOG) and the United States Preventative Task Force (USPSTF) recommend health professionals screen and assess patients for anxiety and depression *at least once* during pregnancy and postpartum using a validated tool (Committee on Obstetrics Practice, 2018; USPSTF, 2016). Despite these initiatives, implementing screening tools to assess mood disorders remains controversial (Kendig et al., 2017). Patient education is limited and screening is emphasized primarily during postpartum rather than antepartum (Kendig et al., 2017). Some studies determined clinical screening measures uncover existing symptoms and efficiently identify patients at increased risk of developing psychological disorders while others found screening did not promote patients to

seek and follow through with treatment (Cox et al., 2016; Goodman & Tyer-Viola, 2010; Hiremath 2016; Kozhimannil et al., 2011). Considering anxiety and depression symptoms can occur at multiple time points throughout the perinatal period, inconsistent screening tool administration increases the likelihood of missing a crucial maternal mental health assessment finding. The evidence solidifies that additional methods are needed to enhance mental health assessment and recognition in perinatal care (Biaggi et al., 2016; Dennis, Falah-Hassani, & Shiri, 2017).

Many (87%) healthcare professionals conduct routine screening for depression and recognize it as an essential aspect of perinatal care (Kim et al., 2009; Taouk et al., 2018). Although providers do follow guidelines and recommendations for perinatal depression, they do so at a much higher rate (82.4% vs. 53%, $p < 0.001$) during postpartum rather than during pregnancy (Fedock & Alvarez, 2018). Only 20% of providers, however, reported screening for anxiety (Leddy et al., 2011). Furthermore, barriers such as lack of time and preparedness to discuss and treat mental health issues prohibit providers from accurately and sufficiently screening their patients (Higgins et al., 2018; Noonan et al., 2018). Mental health assessment is often limited because of providers' emphasis on physical well-being and difficulty in differentiating between usual anxiety/depressive symptoms in pregnancy (Apter et al., 2013; Misri et al., 2015). In addition, providers express uncertainty and feel ill-equipped utilizing the screening tools and report that limited mental health resources and difficulty with timely referrals reduced successful treatment and follow-up (Nagle & Farelly, 2018). Therefore, the administration of screening tools remains inconsistent and underutilized in the pregnancy and postpartum population.

Significance to Healthcare

Despite screening by healthcare providers, perinatal mood disorders are often underreported by women due to the lack of open acknowledgement of symptoms and the social or cultural stigmas of mental health present in today's society (Biaggi et al., 2016; Moore et al., 2016). Pregnancy and motherhood are perceived to be a blissful time in a woman's life with expectations that elicit joy and positivity (Pace et al., 2018). Such expectations lead to decreased recognition and self-reporting of mental health concerns and the utilization of mental health services by pregnant and postpartum women (Pace et al., 2018). Fear is another significant factor as mothers are less likely to admit or report their symptoms due to possible separation from their child and hospitalization (Kingston et al., 2015; Moore et al., 2016). Some women believe they will be viewed as "bad mothers" lacking coping abilities and unable to assimilate into their new roles (Moore et al., 2016). Feelings of shame and guilt surrounding mental health issues lead to the dismissal of symptoms (McLoughlin, 2013). Many women do not understand the differences between normal anxiety and depression symptoms and those that warrant significant treatment and support services (Biaggi et al., 2016). A lack of knowledge surrounding maternal mental health disorders during pregnancy and after birth is a significant barrier for symptom reporting and seeking timely treatment (Moore et al., 2016).

Over 18 million prenatal visits occur in the United States (US) annually (Osterman & Martin, 2018). Following ACOG recommendations, a woman may attend 16 or more prenatal provider appointments throughout her pregnancy (Kilpatrick et al., 2017). Conversely, women only attend one or two appointments during the postpartum period (Osterman et al., 2018). ACOG and the American Academy of Pediatrics (AAP) recommend that postpartum

appointments occur at least once four to six weeks after birth (Strumbas et al., 2016). Despite these recommendations, actual attendance rates are between 56% to 90% and vary by the woman's age, ethnicity, socioeconomic status, and previous number of pregnancies/births (Strumbas et al., 2016). Perinatal care visits provide multiple opportunities and optimal settings for healthcare providers to educate and discuss maternal mental health issues with their patients.

Due to the complexity and significant impact of mental health for mothers, babies, and families, interventions such as patient education initiatives for maternal mental health promotion and prevention are pivotal to increasing recognition (Kendig et al., 2017). Beyond traditional screening, innovative educational programs designed to increase awareness, can assist healthcare providers in educating patients about perinatal anxiety and depression symptoms further empowering patients to seek resources and timely treatment (Miller et al., 2009; Byrnes, 2018). Quality initiatives are essential to improve and refine women's psychological health care throughout pregnancy and postpartum.

Local Problem

The number of women in Arizona suffering from mood disorders during pregnancy and after childbirth are in line with national averages. Approximately 12.8% of women experience postpartum mental health disorders such as depression compared to the overall rate of 12.5% in the United States (US) (America's Health Rankings, 2019). Specifically, in Tucson, Arizona, 28% of women who experience live births suffer from some form of a perinatal mood disorder (Tucson Postpartum Depression Coalition, 2020). A need assessment survey conducted by the Arizona Department of Health Services (ADHS) reported maternal mental health services are

lacking and concluded programs by the ADHS are needed (Arizona Maternal Child Health Needs Assessment, 2015).

At the specific project site, a local breastfeeding and postpartum support center, women are seeking services to aid in helping feed their baby; one of the most essential things in a newborn's beginning of life. Often mothers are coming to the center with an array of challenges with breastfeeding and/or feeding their baby. Challenges may be due to maternal physiological issues such as decreased milk supply, delayed lactogenesis, infant issues such as tongue tie, prematurity, weight gain issues, or medical problems or a combination of these issues which can be complex. These women are potentially at risk for psychological health issues due to increased stress in relation to the breastfeeding and feeding challenges they are facing on top of adjusting to a major life change and caring for a new baby.

Significant stakeholders include the mothers as they are the ones at risk for experiencing the symptoms. Their experiences and feedback are invaluable to creating programs to educate and assist in assessment and treatment development. Community resource organizations (i.e., childbirth classes, support groups, breastfeeding support centers, etc.) are vital to promote mental health awareness and further support women and their families beyond the clinical setting (Olson et al., 2019). Their recognition of maternal mental health issues can help identify those in need of prompt referral to treatment and healthcare personnel. Healthcare providers are integral in the recognition of the prevalence of mood disorders and instituting thorough assessment, education, treatment, and referral to mental health experts and services.

Intended Improvement

Project Purpose

The purpose of this quality improvement (QI) project was to increase patient awareness and knowledge of maternal mental health disorders that can occur during pregnancy and postpartum, specifically anxiety and depression, in order to promote positive health outcomes for the mother and child. The goal was to deliver and integrate an informative and supportive educational video about perinatal mental health for pregnant and postpartum patients receiving breastfeeding support and postpartum care at a local center in Tucson, Arizona.

Project Question

Will the delivery of an educational video about perinatal anxiety and depression increase knowledge and awareness of mental health and equip mothers with the self-confidence to seek help, if needed?

Project Objectives

The proposed project includes the following objectives:

- 1) Implement the education video to pregnant or postpartum mothers to increase knowledge and awareness of perinatal mood disorders of anxiety and depression.
- 2) Conduct a pre- and post-survey questionnaire to assess knowledge gain and the intent to utilize the information and resources.
- 3) Evaluate the video's effectiveness on increasing confidence to seek help, if needed.

Theoretical Framework

Health Belief Model

The Health Belief Model (HBM) is a foundational framework for the proposed maternal anxiety and depression mental health educational intervention. The HBM combines cognitive and social theories and aims to depict the relationships of attitudes and behaviors that impact health (Laranjo, 2016). The HBM was created by a group of social scientists of the United States Public Health Services (USPHS) to evaluate and predict health behaviors and the utilization of healthcare services (Hochbaum et al., 1958). The theory was developed in response to limited patient tuberculosis (TB) screening despite provider and diagnostic imaging being in close vicinity and readily available to patients (Hochbaum et al., 1958). Hochbaum and colleagues (1958) found the low TB screening participation rates were significantly affected by the adults' perceptions of health risk of acquiring the disease and benefits of screening or prevention measures.

The theory identifies that behavior change and adoption derives from one's inherent perceived benefits and potential barriers for developing a disease (Hochbaum et al., 1958). The model describes how individuals are more likely to engage in positive health behaviors if they can understand their risk and vulnerability for the contraction of the disease/illness and how to avoid it. If they believe that they are well-equipped and knowledgeable about how to adapt and change successfully, they are more likely to implement the recommended health action (Laranjo, 2016). The HBM framework has six core properties: perceived susceptibility, perceived seriousness, perceived benefits, perceived barriers, cues to action, and self-efficacy (Hochbaum et al., 1958). Researchers have used this model to study health behaviors and patterns and

formulate interventions to prevent disease processes in many different patient populations (Laranjo, 2016; Skinner et al., 2015). These components have also been used as strategies to create and guide health educational programs targeting knowledge acquisition and identifying intrapersonal characteristics about specific health issues to motivate behavior change (Laranjo, 2016; Norman & Connor, 2017).

Perceived susceptibility. The first concept of the HBM is *perceived susceptibility*, one's belief of their chances of developing a condition or experiencing a health event (Hochbaum et al., 1958; Skinner et al., 2015). This term reflects that an individual must believe they are at risk for a particular situation before they can take part in any actions to reduce or prevent their risk (Hochbaum et al., 1958; Skinner et al., 2015). In this QI project, statistical information was used to inform patients about the risk of experiencing anxiety and depression during pregnancy and postpartum. A short description was included in the video explaining how and why women are at increased vulnerability to developing mental health disorders due to the physiological and psychological changes that arise during pregnancy and with caring for a new baby. By providing pertinent background data, women may better understand their risk of experiencing mood disorders throughout the perinatal timeframe.

Perceived severity. Understanding and recognizing the negative consequences or outcomes that can occur due to acquiring a potential condition or possible exposure to an illness or health issue is *perceived severity* in the HBM (Hochbaum et al., 1958; Skinner et al., 2015). If individuals see the threat to be dangerous to their overall health and well-being, they will be more likely to engage in behavior change and more willing to learn (Hochbaum et al., 1958; Laranjo, 2016; Skinner et al., 2015). This component of the HBM was represented in the video

education program by stating the prevalence rates of maternal anxiety and depression, presenting the signs and symptoms, and explicitly delineating between typical symptoms to more severe or life-threatening. Furthermore, the educational material included an overview of the consequences of not addressing or recognizing distressing symptoms (i.e., difficulty bonding with baby, adverse physical effects, feelings of self-harm) through information distribution. Addressing symptom severity and consequences in the educational video communicated the need for women to recognize the importance of maternal mental health during pregnancy and after birth.

Perceived barriers. Recognizing potential obstacles and discussing individual concerns about participating in the advised behavior is a crucial element to promote change (Hochbaum et al., 1958; Skinner et al., 2015). Even though an individual may recognize the health practice severity and consequences, they may identify physical and social barriers and constraints that will impede them from employing the health change practice in their daily life. Many women are reluctant to address their emotional feelings due to the stigma that surrounds mental health (Pace et al., 2018). The fear of being judged or being seen as unfit to care for their baby impedes recognition and treatment (Pace et al., 2018). Other perceived barriers include lack of time (focus on taking care of baby/family), difficulty initiating conversation, and statement of true feelings (Kingston et al., 2015; Moore et al., 2016). By acknowledging these barriers in the video and providing supportive resources, women may be able to overcome the negative beliefs or perceptions and be proactive in their mental health.

Perceived benefits. When proposing a new health practice or encouraging health behaviors, people are more likely to actively change habits if the benefits and positives are clearly defined and explained (Hochbaum et al., 1958; Skinner et al., 2015). The benefits must

counteract the possible barriers (i.e., feasibility, accessibility, costs, fears, comfort levels) surrounding the health change (Hochbaum et al., 1958; Skinner et al., 2015). Understanding the signs and symptoms of anxiety and depression can lead to benefits such as positive birth experiences, increased mother-infant bonding, enhanced family dynamic relationships, and positive physical health outcomes. Recognizing mental health as an important aspect of overall health may prompt increased discussion of anxiety and depression symptoms and initiate early treatment. The content of the video communicated these benefits by encouraging women to speak up about their feelings and experiences to promote positive mental health.

Cues to action. According to the HBM framework, individuals must be equipped with essential strategies and tools to support them if they decide to participate in health change (Hochbaum et al., 1958). Both internal and external environmental influences general health motivation and reminders and prompts are essential to facilitate action (Skinner et al., 2015). The individual's perceptions of disease severity and the barriers and benefits of the offered treatment or suggested behavior, affects how the individual chooses to engage in the proposed health behavior (Skinner et al., 2015).

The video provided evidenced-based activities in which mothers can engage that promote positive mental well-being. Examples of activities include talking with other mothers, counseling, mindfulness, good nutrition, and encouraging exercise (Center of Perinatal Excellence, 2020). Providing ways in which women can discuss their feelings with their families, healthcare providers, or other supportive personnel was explained in the video. A list of local resources (i.e., support groups) and contact information (healthcare providers, counselors,

suicide hot-line) was provided to further assist mothers in identifying individual symptoms and promote action and treatment.

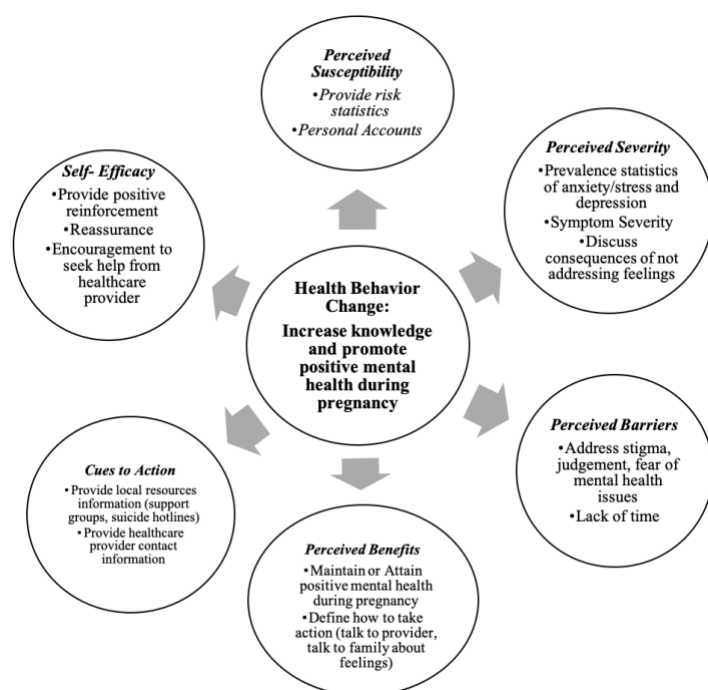
Self-efficacy. The last and newly added element of the HBM is *self-efficacy*. Self-efficacy refers to one's confidence in their ability to proactively pursue and engage in a new health-related practice (Skinner et al., 2015). This concept was added to the model to account for differences of intrinsic motivation that reside in an individual's mentality despite the presence of the perceived variables (Skinner et al., 2015). Reassuring the mother that anxiety and depression are common experiences during pregnancy and postpartum and that there are resources available, is important in promoting self-confidence in the mother. This confidence in turn may provide the motivation to seek assistance from either healthcare providers or support groups. The educational video provided straightforward, easily accessible local resources for mothers. Comprehensive education and supportive measures on maternal anxiety and depression can instill self-assurance to improve optimal mental health behaviors. See Figure 1 for the theoretical framework elements in the educational program.

HBM in the literature. Several studies found that by using the HBM framework during the creation of educational programs, positive health behaviors could be enhanced during pregnancy and in women's health. Incorporating the HBM into health education to raise awareness about premenstrual syndrome (PMS) was deemed efficient and successful in behavior modification and adoption in adolescents and women of childbearing age (Ayaz-Alkaya et al., 2020; Khalilipour & Panahi, 2017). Three randomized control trials investigated whether HBM based education programs compared to a control group influenced health practice changes in pregnant women. All three studies held several educational sessions and distributed

questionnaires to assess patients' perceptions, knowledge, and plan for action after gaining insight into particular health issues using the six essentials of the HBM. Two of the studies found that increased knowledge and plans for action occurred in the experimental group to increase oral health practices and reduce dental issues (pre-intervention= 47.25 ± 3.95 , post-intervention= 80.25 ± 7.62 ; $p = 0.01$) and promote healthy diet behaviors during pregnancy (pre-intervention= 9.21 ± 3.8 , post intervention= 18.09 ± 2.85 ; $p < 0.001$) (Jeihooni et al., 2017; Khoramabadi et al., 2016). Four weeks after three educational sessions consisting of group discussion, presentations, and distributed printed resources, maternal knowledge on the harmful effects of anxiety during pregnancy and all six elements of the HBM increased ($p < 0.001$) (Shahnazi, 2015). Using the HBM as a platform for developing educational programs is useful in distributing pertinent information and influencing behaviors.

Figure 1

Health Belief Model Components Integrated into the Video Educational Program



Limitations. Some limitations within the HBM framework influence the development of effective educational interventions. The HBM is considered more of a descriptive model explaining health behavior rather than suggesting clear guidelines for facilitating change actions (Jones et al., 2015). The HBM does not take into consideration the demographic factors (educational level) that may exist among the patients within a given population and its effect on learning (Hochbaum et al., 1958; Skinner et al., 2015). Also, the HBM does not factor in the variations of socioeconomic characteristics among individuals that can impede access to healthcare services; it assumes equal obtainability (Hochbaum et al., 1958; Skinner et al., 2015). Lastly, the ability of the HBM to directly predict health behaviors remains undetermined (Glanz, et al., 2015).

Educating about maternal mental health utilizing the six elements of the HBM through an educational video can help address the complexities of maternal mental health in perinatal care. The HBM was used in this QI project to create the educational video about perinatal anxiety and depression. Delivering an educational program to inform women about their vulnerability of experiencing mental health disorders and symptom variation and severity of anxiety and depression can increase maternal mental health awareness. By integrating the HBM model into the educational program, women and their families can reflect on their individual perceptions of mental health and utilize the information, proposed interventions/activities, resources for support, and positive reassurance to acknowledge and be proactive in their mental health care and ultimately experience positive pregnancies, births, and motherhood.

Literature Synthesis

Literature Search Description

An extensive literature review was conducted to explore current practices of maternal mental health assessment, screening tools, and video-based education during pregnancy in the perinatal care setting (Appendix A). Three searches were conducted using the PubMed, Psych Info, and Cumulative Index of Nursing and Allied Health Literature (CINAHL) and databases accessed via the Arizona Health Sciences Library. Filters were placed to include articles published within the last five years, English language, and full text. International studies were included as maternal mental health is a global issue (WHO, 2020). The PubMed database was utilized to identify current practice guidelines of assessing anxiety and depression in the outpatient setting using the Medical Subject Headings (MESH) function. Search terms included “pregnancy,” “practice guideline [publication type],” and “depression” “mood disorders.” Three systematic reviews were appraised.

The Psych Info database was used to explore anxiety and depression screening measures used in pregnancy. Search strings using the Boolean operator included “pregnancy,” AND “anxiety,” AND “depression,” AND “screening tool or assessment tool.” This search produced articles that analyzed various screening tools to assess for mood disorders during pregnancy. Six articles were included for review. Lastly, CINAHL and PubMed were searched using the terms “pregnancy” AND “video education or video instruction” AND “mood disorder” OR “anxiety” OR “depression.” No articles were discovered that specifically analyzed video education for mental health awareness. Therefore, the search was reconstructed to review articles that used video education in other patient populations and two

articles were included. Then, the terms “pregnancy” AND “video education or video instruction or education” were inputted into CINAHL to explore the use of video education in pregnancy. Four studies that were implemented in the prenatal clinic setting and during pregnancy were included for review. See Appendix G for a flow diagram figure of the literature search and delineation of articles.

Current Practice Recommendations

Kendig and colleagues (2017), members of the Council on Patient Safety in Women’s Healthcare, created an evidence-based safety bundle outlining specific recommendations for comprehensive maternal mental health care. The systematic review identified four main areas that providers should focus on to adequately address perinatal depression and anxiety. The four key points include readiness, recognition and prevention, response, and reporting (Kendig et al., 2017). Providers should identify a validated screening tool to implement into their practice. Education on administration for providers and staff should be provided after choosing a screening tool. A referral process protocol should be put into place so that positive screenings can prompt early treatment (Kendig et al., 2017). The care bundle recognizes and supports patient and family education as an essential aspect of mental health care in the prenatal setting (Kendig et al., 2017). Evidence shows that screening alone does not improve outcomes and education must be implemented to help mothers and families identify symptoms, comprehend normal versus abnormal symptoms, speak up about their feelings and psychological health, and reduce stigma of mental health issues (Kendig et al., 2017).

The United States Preventative Services Task Force (USPSTF) recommends that screening for depression should occur in all adults, including women during both pregnancy

and postpartum (USPSTF, 2016). The American College of Obstetricians and Gynecologists (ACOG) published guidelines that support mood disorder screening throughout pregnancy to postpartum. The validated screening tools to be used in the prenatal clinic setting recommended by ACOG include: The Edinburgh Postnatal Depression Scale (EPDS), Postpartum Depression Screening Scale (PDSS), Patient Health Questionnaire-9 (PHQ-9), Beck Depression Inventory (I and II), Center for Epidemiologic Studies Depression Scale, and the Zung Self-Rating Depression Scale (Committee on Obstetrics Practice, 2018). These recommendations do not identify one screening tool that is superior (Committee on Obstetrics Practice, 2018). All three organizations conclude that screening is an essential component of anxiety and depression recognition across the perinatal time period. More importantly, they highlight that screening should be implemented with other programs such as patient education, provision of support resources, and through a multidisciplinary approach. Although evidence concludes that screening can accurately identify those with mood disorders, the USPSTF states that in addition to screening tools, collaborative care and treatment protocols must be in place to ensure efficient referral and positive outcomes (USPSTF, 2016). Therefore, research is needed on the various methods such as education programs to identify their impact on maternal mental health outcomes.

Screening Measures

There are a variety of tools to measure anxiety and stress for the general population, but their use to adequately distinguish symptoms in the pregnant population is debatable (Shetter & Tanner, 2012). Utilizing typical measures for general mood disorders leads to difficulty in accurate diagnosis because the measure contains symptom analysis of common experiences

found during pregnancy such as general fatigue, insomnia, and appetite alterations (Shetter & Tanner, 2012). Diagnosis remains difficult as patients must meet specific criteria to be considered having an anxiety disorder based on presenting symptoms defined in the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)* (Byrnes, 2018). The DSM-5 diagnosis of mental disorders is not tailored to the pregnant patient population (Byrnes, 2018). Pregnant women may not score high enough on screening to be labeled as having anxiety or depression disorders, but may still have symptoms that can affect their individual and the baby's well-being (Shetter & Tanner, 2012). Despite the diagnosis challenges and complexity of screening, universal screening measures using validated instruments are still recommended to identify anxiety and depression and provide comprehensive mental health assessment as a critical part of obstetric care (Committee on Obstetrics Practice, 2018). This initiative has led to using a variety of screening measures to identify anxiety and depression in pregnant women.

There are many screening tools in the literature that have been created to assess women's psychological health, but the primary focus of randomized control trials evaluating the tools were conducted postpartum (Khanlari et al., 2019; Uguz et al, 2019). Some studies have confirmed that the use of screening tools in routine prenatal care adequately detects prenatal mood disorder symptoms such as anxiety and depression (Hirsch et al., 2017; Matthey & Della Vedova, 2018). In contrast, other studies have reported challenges with screening effectiveness such as lengthiness, the timing of administration, specificity, validity, one-dimensional properties, and variability of cut off scores (Bayrampour et al., 2016; Hirsch et al., 2017).

EPDS. Considered the “gold standard” for screening for maternal depression, the EPDS is commonly used to assess for depressive symptoms specifically post-birth before leaving the

hospital and at outpatient postpartum follow-up visits (Cox et al., 1987; Leung et al., 2010; Yawn et al., 2012). The EPDS contains 10 questions and takes about five minutes to complete. This tool is reported to have effective sensitivity, specificity, and positive predictive value of 86%, 78%, and 73% respectively in its ability to identify patients with depressive symptoms (Cox et al., 1987). More recently, the EPDS nomenclature was changed to substitute postnatal for *perinatal* as it was validated as an appropriate screening measure to use during pregnancy (Khanlari et al., 2019). While some studies found that the EPDS was capable of adequately identifying depression and anxiety symptoms during pregnancy, others found limitations in its ability to report variations of symptoms (Kwan et al., 2015; Matthey et al., 2018). Kwan et al. (2015) evaluated the different properties of each of the 10 questions on the EPDS. They found that the EPDS was able to identify dysphoria (mixed anxiety and depression symptoms) and that certain questions (question 1, 2, & 10) on the EPDS adequately addresses symptom severity (Kwan et al., 2015). Conversely, the EPDS was less likely to detect women who felt that they were experiencing overall distress (Kwan et al., 2015; Matthey et al., 2018).

Other screening measures. In addition to the ACOG recommended screening tools, other measures were compared in the literature. Matthey and Della Vedova (2018) developed a mood questionnaire specifically for pregnant patients (Matthey Generic Mood Questionnaire [MGMQ]). The MGMQ is comprised of four questions that assess overall mood, impact of these feelings, perceived reasoning why symptoms exist, and whether the mother wants to discuss symptoms with a healthcare provider (Matthey et al., 2018). The researchers utilized their tool with pregnant patients in their third trimester as part of a usual prenatal care visit. Matthey and colleagues compared the reliability of the MGMQ with the EPDS. The MGMQ tool was able to

identify more symptoms and emotions of both anxiety and depression and had higher detection rates than the EPDS (40% vs. 12%, respectively). It is important to note, however, that the EPDS was administered first, followed by the MGMQ which could have skewed the data and enhanced the MGMQ identification ability (Matthey et al., 2018).

The Postnatal Distress Measure (PDM) is a specific postpartum tool that measures both anxiety and depression symptoms (Hirsch et al., 2017). Hirsch and colleagues (2017) adapted this measure and created the Prenatal Distress Measure (Pre-DM). The Pre-DM consists of 10 questions covering a range of general distress feelings (Hirsch et al., 2017). The questionnaire was distributed through an online survey to both pregnant and postpartum women. When these measures were compared to the EPDS and other anxiety questionnaires the Pre-DM was noted to be a reliable scale (Chronbach's alpha 0.85) in identifying symptoms of distress in a prenatal sample (Hirsch et al., 2017).

The Patient Health Questionnaire-2 (PHQ-2) is a very short depression scale consisting of only two questions that address feelings of depression and anhedonia (Kroenke, Spitzer, & Williams, 2003; Vlenterie et al., 2017). The PHQ-2 was administered to pregnant women three times throughout the pregnancy. A total of 735 women (24%) scored positive for depression (score ≥ 1) using the PHQ-2 scale. The PHQ-2 had 69-84% sensitivity and 79%-84% specificity of identifying women with depression symptoms. The study reported many false-positives and recommended that even though screening may identify symptoms, further investigation including assessment and discussion is needed to determine mood disorder prevalence and severity.

Women's Perceptions of Screening

The receptiveness of maternal mental health assessment is imperative to accurately identify women with anxiety and stress symptoms. Women's perceptions of routine screening vary. Two qualitative studies examined women's views on maternal mental health care. Women reported that they experienced many different emotions and found it was difficult to decipher "normal" from "abnormal" symptoms (Kingston et al., 2015; Nagle & Farrelly, 2018). Women were also *less* likely to report actual symptoms because of feelings of guilt and shame as societal norms insist that antepartum is an exciting, happy time period (Nagle & Farrelly, 2018). Participants were appreciative of mental health assessment during prenatal visits, however, they reported there was more emphasis on the physiological changes rather than the psychological effects and limited time was a negative factor (Kingston et al., 2015; Nagle & Farrelly, 2018). Other barriers to reporting symptoms and seeking psychological assistance included social stigmatization and reluctance to report due to ineffective/impersonal assessment of screening measures (Nagle & Farrelly, 2018). Kingston et al (2015) found that many patients preferred to address their mental health individually. Some participants viewed screening tools as just "ticking the box" and that true feelings were difficult to disclose utilizing surveys (Nagle & Farrelly, 2018). Participants also expressed confusion with the meaning of results. They felt that being directly asked about their mental health and discussion was more effective (Nagle & Farrelly, 2018). In contrast, other participants valued the screening measures in written form as this made the questions more relatable and the participants were more likely to report significant symptoms (Nagle & Farrelly, 2018). Limitations of these studies include variations in sample sizes (n=8, n=500).

Also, the subject demographics in Kingston et al.'s (2015) study included primarily Caucasian, well-educated females. These results may not be as generalizable to more diverse pregnant patient populations. These studies show that opinions differ of the utilization of mood disorder screening tools in the prenatal clinic setting, thus further research of a different approach is needed to assess and discuss maternal mental health.

Technology Interventions

The use of technology in healthcare increases knowledge and engages patients to be proactive in improving health behaviors and overall health (Storck, 2017). Electronic sources such as the internet and mobile applications are widely used among the pregnant patient population to acquire knowledge about fetal growth and development, health practices, symptoms management, and support resources (Lau et al., 2016). Mobile health technology has become an innovative way to quickly diffuse information to large populations (Storck, 2017). Daily text messaging is a feasible method to communicate information about mood symptoms and is positively received by patients (Aguilera & Muñoz, 2011). Health literacy scores increased by 10% ($p < 0.01$) in patients who received weekly educational text messages compared to usual care (Zhuang, 2016). A large, national program called "Text4Baby" enhanced maternal and fetal well-being outcomes by increasing pregnancy knowledge of prenatal care and providing prenatal resources through text messages. Mental health information and services were also provided through the text messaging program (Evans et al., 2012; Whittaker et al., 2012). Mobile applications are credible, innovative tools for immediate access to pertinent pregnancy information (Lee & Moon, 2016). One mobile application tracked symptoms and physical activity of women with perinatal anxiety and depression and found that women with increased

symptoms were less active ($p=0.4$) (Faherty et al., 2017). Therefore, using technology alternatives to standard written education information such as videos is an appropriate and efficient approach increase communication and awareness of maternal mental health (da Silva Santos et al., 2020).

Video education in other patient populations. Video education can empower patients to be proactive in their health, increase knowledge, and change health attitudes and behaviors (Abed et al., 2014). Incorporating a short video (2 minute) in an outpatient dermatology clinical environment was the preferred method compared to written materials in the detection of skin carcinomas (Lenczowski et al., 2018). The subjects recalled greater than 90% about self-skin assessment and prevention information on posttests (Lenczowski et al., 2018). Video education also improved knowledge about proper glaucoma management among patients attending regular follow up appointments at an outpatient glaucoma specialist (Al Owaifeer et al., 2018). Post-viewing scores improved by almost 50% after the video ($p\leq 0.001$). A major limitation of both of these studies include that there was no comparison group (i.e., paper format delivery) as these results may be more impactful if examined versus traditional educational methods.

Four articles examined video administration education in prenatal care. One study provided breastfeeding education to patients three times during their third trimester of pregnancy as part of their usual prenatal care (Pitts et al., 2015). The researchers sought to identify if video education increased breastfeeding rates postpartum. Tablets were used to deliver the education material and participants completed post-tests immediately following the modules (Pitts et al., 2015). More (67%) participants reported that the modules empowered them to attempt breastfeeding postpartum and successful breastfeeding occurred in over 70% of the study sample

(Pitts et al., 2015). A limitation of this study is a small sample size ($n=21$) and that over half (67%) had prior breastfeeding experience. O'Sullivan, McCafferty, and Gilia (2019) also used video-based education to teach pregnant women about hand expression to promote milk production and increase breastfeeding after birth. Some 95 pregnant women watched a video via the internet on the proper technique for hand expression (O'Sullivan et al., 2019). They completed pre- and post-tests questionnaires to evaluate knowledge gained. The study found improvement in scores by '4' points (3.05 ± 1.70 correct out of 7 to 6.32 ± 0.76 ; $p < 0.001$). The researchers also determined that women felt more confident with the procedure after viewing the video ($P < 0.001$). A randomized control trial explored the effectiveness of an educational video on aneuploidy testing before an ultrasound (Mulla et al., 2018). Participants who viewed the video showed improvements in knowledge score ($+2.0$ (scale 1.0–5.0); $p=0.1$] and overall comprehension ($p < 0.001$).

Limitations of this study include that the questionnaire was not a validated tool (it was created by the researchers) and that prior knowledge could have been increased at baseline due to the study only included participants that agreed to have the ultrasound performed. Although, the randomization format allowed for the video intervention to be compared to usual care. Another randomized controlled trial distributed a virtual reality video prior to patients having planned cesarean sections to determine anxiety reduction. The distribution of education took place in the outpatient prenatal clinic prior to their admission to the hospital (Noben et al., 2019). The researchers compared the differences in patients who received the standard pre-operative written materials and discussion ($n=48$) to patients who viewed the video plus the usual care ($n=49$) (Noben et al., 2019). Anxiety rates were not decreased among the intervention group, however,

participants that viewed the video felt more prepared for the cesarean section (Noben et al., 2019). These study examples show how video technology may be a feasible, efficient method to deliver important education to increase knowledge and promote positive mental health for the pregnant or postpartum patient.

Strengths of Evidence

The literature identifies the prevalence and consequences of maternal anxiety and depression and as a global public health concern. Professional organizations (ACOG, USPSTF, WHO) recognize the importance of assessing and supporting women's mental health care during pregnancy and the postpartum time period. Practice bundles and recommendations are available as a resource and guidance for healthcare providers to establish mental health screening and assessment and referral networks to adequately identify women with mental health issues during prenatal care (Kendig et al., 2017). A variety of validated anxiety and depression screening tools have been created and tested both in pregnancy and postpartum and can be implemented within 5 to 10 minutes (Kendig et al., 2017).

Weaknesses, Gaps and Limitations

The literature review is limited as there are few clinical studies that specifically explore the use of education regarding maternal mental health issues during pregnancy and prenatal care visits. Also, there were limited articles that identify the use of video specifically to address depression and anxiety in pregnancy. Many of the research centers on the postpartum period and treatment/therapy rather than increasing awareness and prevention (Tsivos et al., 2015). It is clear that there are many screening tools that can be used to assess for anxiety and depression symptoms during pregnancy. Despite the availability of these tools, the research suggests that

solely implementing screening measures do not improve maternal mental health treatment and outcomes (Byatt et al., 2016; Kendig et al., 2017). Barriers to implementing these tools are multifactorial and inconsistent in practice, warranting alternative approaches to increase the awareness of maternal mental health and promote optimal outcomes.

METHODS

Project Design

Education about maternal mental health during pregnancy transcending into postpartum has the potential to trigger early interventions and treatments, and improve health outcomes for the mother, baby, and family (Kendig et al., 2017). This quality improvement (QI) project intended to increase maternal mental health awareness and knowledge about the prevalence, signs and symptoms, treatment, and local support resources among pregnant and postpartum mothers. In addition, self-confidence and motivation to seek help, if needed, will be evaluated. A descriptive, quantitative approach was used to determine the effectiveness of the video education program in reaching the aforementioned goals. This project gathered self-reported data utilizing a pre- and post-survey questionnaire.

In order to achieve the purpose of this QI project, the following five outcomes were measured. Upon watching the video, mothers will:

- 1) Identify signs and symptoms of mood disorders that may arise in pregnancy and postpartum.
- 2) Be able to state one risk factor for developing anxiety and depression.
- 3) Be able to identify one way to prevent and/or reduce anxiety and depression symptoms.
- 4) Identify one local support group or resource.

- 5) Report increased confidence to discuss mental health and seek help if needed.

Model for Implementation

QI projects are implemented to enhance the safety, efficiency, and efficacy of patient care delivery and processes (Institute for Healthcare Improvement [IHI], 2020). QI explores new practices and their effects on patient outcomes, seeking to improve the overall healthcare quality for various patient populations and organizations (IHI, 2020). The Institute for Healthcare Improvement (IHI) created the Model for Improvement (MFI) for study investigators and leaders to utilize as a guide for creating and executing proposed changes successfully into practice (IHI, 2020) (Figure 2). The first step of the model is to set clear aims, state planned outcome measures, and present selected change mechanisms by answering three key questions (IHI, 2020). The three key questions that is the infrastructure of the QI initiative in the MFI include: What are we trying to accomplish? How will we know that the change is an improvement? What changes can we test that will result in an improvement? The project investigator (PI) intends to increase awareness about anxiety and depression through an educational video. The project also aims to increase knowledge about the signs of mental health issues, symptom management, and local supportive organizations and groups. Through education, the PI strives to empower women to seek help if needed. The degree to which these outcomes are met will be analyzed comparing the pre- and post-survey data completed by the mothers. Lastly, the change is an educational video distributed amongst pregnant and postpartum patients.

Plan-Do-Study-Act (PDSA)

The second step in the MFI contains the plan-do-study-act (PDSA) cycle. This cycle evaluates the effectiveness of the change and its ability to sustain beyond implementation (IHI,

2019). The PDSA is a cyclical testing model that tracks the change in real-time during the employment of a QI initiative. The PDSA cycle allows for simple, strategic planning to identify a current practice improvement need, identify specific goals, create an intervention, and determine how the intervention will be reviewed for effectiveness (IHI, 2019). Utilizing the PDSA system determines if the proposed practice is influencing actual improvement changes and adoption by stakeholders (IHI, 2019). By obtaining and evaluating real-time feedback using the PDSA cycle, issues and challenges may be identified quickly, and the appropriate adjustments and solutions can be made to the QI project to increase the likelihood of attaining the project goals (IHI, 2019). Prompt evaluation and making modifications, as discovered through the PDSA cycle, allows for rapid transformation (IHI, 2019). The PDSA cycle guided this QI initiative through creating the perinatal mental health video education program. Utilizing the PDSA cycle allowed the video educational materials and delivery process to be continuously evaluated, updated, and reconfigured, to assure that the project objectives were met.

Plan. The first phase of the PDSA cycle is planning (IHI, 2020). The planning phase consists of extensive preparation and project development. During this phase, the PI consulted with the owners of the breastfeeding and postpartum support center to solidify the need and gain support for the video education. Once the owners authorized to implement the project within the organization, the PI collaborated with them to discuss the education material or resources to be included in the video. Then, evidence-based online resources and educational material were incorporated to formulate the video script. A mother who has experienced perinatal anxiety and depression was interviewed to highlight a personal account (Appendix I). A midwife from a local women's health clinic was also interviewed to include in the video encouragement from a

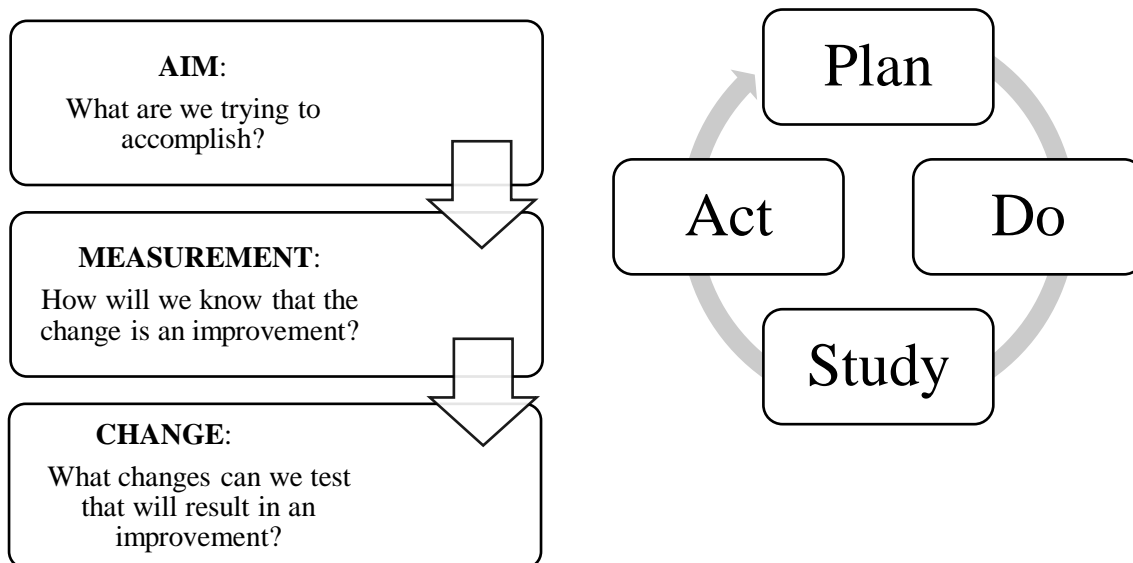
healthcare provider's perspective (Appendix I). The video script was created by the PI and sent to the project chair and two expert content reviewers. These experts are two women's health practitioners that have experience with caring for pregnant patients and extensive knowledge about anxiety and depression within this patient population. They were fundamental in reviewing the video script and content for accuracy and applicability (Appendix E). The script was also reviewed and approved by the owner of the breastfeeding support center. Once the script content was finalized, the script was used to guide the filming and production of the video. The PI consulted a video technologist for the filming and editing of the video. Then, the online platform in which the surveys and videos will be distributed was created. The links and surveys were tested to assure access and eliminate technological challenges or errors. Lastly, the PI collaborated with the breastfeeding support center owner and social media administrators to determine: how and when the project would be introduced to the clients, length of participant recruitment, and the written description that will be posted on the Facebook group introducing the project and inviting the clients to participate (Appendix C). A test trial of the posting and links to the project material was conducted to assure accessibility before actual implementation.

Do. The second step of the PDSA cycle is when the actual change process is tested and data is collected (IHI, 2020). During the second phase, the PI implemented and completed the data collection for the project by October 11, 2020. The disclosure statement, pre-survey, video, and post-survey were accessed by a uniform resource locator (URL) link provided by the PI. This allowed the participants to view and complete all project materials conveniently within one online platform. The PI noted any technical difficulties, challenges, or unexpected events during

the implementation phase. Any adjustments or technology issues were fixed promptly to ensure optimal usability.

Study. During the third phase, the data was critically examined (IHI, 2020). The PI analyzed the data and determine how well the intended project objectives and outcomes were met. The data was explored to see if it aligned with the project’s predictions of increasing maternal mental health awareness and knowledge and increasing confidence to seek assistance if needed. A summary was constructed by the PI to explain the findings as well as describe what was learned throughout the process. Critically appraising the data determines if the change process was in fact effective, but also identifies both intrinsic and extrinsic factors that could have led to the results (IHI, 2020). Once the results were gathered, they were presented to the team (project committee members, breastfeeding support center owners & staff) to prompt reflection and discussion of the video education.

Act. Discussion of modifications and ideas for sustainability will take place during the “act” phase of the cycle (IHI, 2020). The survey results and data summary were used to attest to whether or not the video education benefited the patient population. The PI discussed future utilization within and/or outside of the organization with the committee and breastfeeding center owner during an online meeting. The PI collaborated with the center owner to identify ways the actual video or the setting of the video presentation could be changed to be more effective. Once these changes were identified, a new PDSA was initiated to make the necessary modifications needed to the video education and delivery in order to further enhance maternal mental health education and knowledge acquisition.

Figure 2*The Model for Improvement*

(Adapted from *Model for Improvement*, by the Institute for Healthcare Improvement, retrieved from <http://www.ihl.org/resources/Pages/HowtoImprove/default.aspx>, Copyright 2019).

Setting and Stakeholders

The video education was distributed to clients from a breastfeeding and postpartum center in Southern, Arizona. This center specializes in providing comprehensive breastfeeding care particularly to those experiencing lactation challenges and infant feeding difficulties. The organization provides comprehensive support and education for mothers, and their infants and families through individual sessions or support group meetings. The support staff is comprised of a multidisciplinary team of registered nurses, lactation consultants, physical therapists, speech-language pathologist, and dieticians. A thorough medical, social, emotional, and feeding/birth history is assessed prior to one-on-one sessions with providers to develop care and establish goals. If there is a concern for a psychological issue, the providers implement screening and make referrals. Pregnant or postpartum mothers and their families attend individual sessions with

one of the providers tailored to their individual experiences and needs. Other services offered include a weekly support group meeting and educational classes that focus on prenatal breastfeeding and infant care classes (i.e., baby sign language, solid food introduction, & infant massage). Mothers can attend sessions and receive services with or without a referral by medical professionals.

Due to the COVID-19 pandemic, the center has transitioned to a telemedicine platform conducting visits via Zoom. Therefore, the project location was adjusted to an online virtual format. The breastfeeding support center utilizes social media programs such as Instagram and Facebook to connect with the community and their clients. The project was implemented within the center's private Facebook group titled "Families of Milk and Honey." Access to the group is moderated by administrative staff within the center. Membership requests require individuals to answer a series of questions and then be approved by the administrators in order to access and post within the Facebook page. This process ensures that only established clientele that has attended services by the center are included into the online group. This Facebook group is used as a resource for the Milk and Honey staff to pass along relevant information and post updates and invitations to their services. In addition, the online Facebook group is a way in which mothers and their families can share resources, ideas, ask questions, and connect with one another to foster relationships and gain further support. Members of the group are able to write posts, comment on other's postings, and share photos. The group contains over five hundred members and is updated daily or weekly.

Authorization for implementation at the clinic site was provided by the owners of the specialized breastfeeding and postpartum center (Appendix A). Key stakeholders for this project

were the clients, owners of the center (a registered nurse/certified lactation consultant & a speech language pathologist), other practitioners, and office staff. The clients were primary stakeholders as they are the ones receiving the educational material and providing their perceptions and experiences. Support, buy-in, and approval by the owners and staff members are integral to the successful employment of the proposed project. Their input for the video was needed to assure that it is appropriate and relevant to their clients. Their agreement to allow the PI to deliver the video education and survey to their clients is essential to the success of the project implementation and data collection. The practitioners were also key stakeholders as they are required to provide assistance and support to the participants during the project if needed. The Facebook group administrators were important to the project success as they posted the project invitation to the clients within the group. The office staff were also key members of the project team as they can assist the clients with questions or concerns about the project.

Planning the Intervention

The project implementation phase occurred from September 28 to October 11, 2020. The Facebook group administrator posted a short introduction to the project (Appendix C) and attached the recruitment flier in a portable document format (PDF) (Appendix C). The posting was displayed on the group Facebook page on Mondays at 12:00 PM, Mountain Standard Time (MST). The project surveys and video was available to clients for a total of two weeks. This structure was determined by the Facebook group administrator's analytics and prior knowledge of heightened times of online member activity. Each posting had the same description and formatting. Participants clicked on the attached flier and read the information about the project and inclusion criteria. A hyperlink was provided within the description post to access the project

material. The PI addressed any questions or issues received by the Facebook group administrator via direct messaging or comments.

Once the participant either clicked on the hyperlink or copied and pasted the URL link (located within the description post) into their internet browser, they were able to access all of the project materials within one space via an online project and survey builder called REDCap. The disclosure form was provided within the online website and participants were asked to read its entirety and select “agree” prior to filling in the demographic data and starting the pre-survey (Appendix B). After selecting “agree,” the participants were able to navigate forward to the pre-survey. Once they completed the pre-survey, they were then able to view the educational video which was embedded within the project website. After watching the video, the participants inputted their answers to the post-survey. Lastly, all participants who completed the surveys and video in its entirety had the option to input their email to enter a raffle for two (2) \$25 dollar Starbucks gift cards as a thank you for their participation. Potential barriers of this implementation included technological difficulties and a lack of willingness to participate.

The video (Appendix E) contained information created and delivered by the PI. The video included pertinent, evidence-based facts and descriptions about the signs and symptoms of depression and anxiety, including the variations and ranges in severity of symptoms, risk factors, negative impacts of continual anxiety and depression, treatment modalities to prevent and alleviate symptoms, and local support resources. The content for the video was developed from evidenced based material of peer-reviewed research articles and nationally recognized organizations such as Postpartum Support International (Postpartum Support International, 2020). The content was also reviewed by expert clinicians as well as the owners of the

breastfeeding support center. Interviews with a mother who experienced postpartum anxiety and depression and local midwife were recorded via Zoom, transcribed and then integrated within the video content. Recording and formatting of the video was provided by Warren Cole, a multimedia specialist and film program lead for a local school district. See Appendix E for the finalized video script.

Participants and Recruitment

The project included clients who were currently receiving services or have received services in the past from the breastfeeding support center in Tucson, Arizona. Partners, significant others, and family members were invited to participate, as they are members of the Facebook group. Exclusion criteria was limited due to the small scale of the project and the project being strictly educational and informative. A convenience sampling or availability sampling method was used as a recruitment method (Etikan et al., 2016). This type of sampling is a nonrandom technique in which the target population (pregnant or postpartum women) of this project would be readily available at a specific time and could be invited to participate (Etikan et al., 2016). Following IRB approval, clients were invited to participate via the posting by the Facebook group primary administrator. Participation in the project was voluntary. Before implementation, the total number of the members in the Families of Milk and Honey Facebook group was 527. The sample size goal was to have at least 10-20% of the group members participate in the project which would result in up to 105 total participants.

Consent and Ethical Considerations

Ethical principles must be considered when creating and implementing studies using human subjects in order to protect participants' individual rights and reduce the risk of potential

harm (Polit & Beck, 2017). *Beneficence* is commonly referred to as “to do no harm” (OHRP, 2018). Researchers must develop interventions that aim to maximize benefits while minimizing harm (OHRP, 2018). Unnecessary risks and potential harms include discomfort, injuries, emotional distress, social inconveniences, and financial implications (Polit & Beck, 2018). This project took several steps to enhance beneficence.

First, the project was submitted to the Institutional Review Board (IRB) at the University of Arizona to ensure the intended project is in alignment with ethical guidelines. The project was identified as reviewed as research and approved by the IRB (Appendix A) (Grady, 2015). Privacy was maintained by using non-patient identifiers and proper data storage. Participants were informed that their survey responses were used strictly for analysis and not exposed. A disclosure form was provided for participant review prior to completing the surveys and viewing the video (Appendix B).

The educational intervention video was as short as possible and concise to minimize time constraints. The content was based on recent and current evidence and delivered in an age-appropriate manner. Because this intervention encompasses perceptions of mental health, psychological consequences must be considered. A potential risk to this project was that the video may scare or bring up feelings in a participant. In an effort to mitigate this risk, the lactation consultants and practitioners were available as usual to discuss and address any feelings that a participant may have.

Participants were encouraged to contact the support center via telephone if they had any concerns or questions after watching the video (Appendix C). No physical risks or consequences for either the woman/participant or the fetus/infant/child were anticipated as it was simply

informative and educational. The intervention and analysis did not include an assessment of personal mental health. The benefits of participation and acquiring knowledge about mental health issues during the perinatal time period outweighed the potential risks.

Timeline

A timeline (Appendix F) was created to ensure adequate progression of the QI project. The timeline dates and progress were adjusted based on the approvals received by the University of Arizona College of Nursing and IRB, the video development, and implementation.

Data Collection

Survey responses were collected from the Facebook group members. The secure network of the REDCap survey and clinical database provided by the University of Arizona was utilized to construct the project surveys and as the platform for participants to complete the survey and view the video. The participants were automatically given a participant ID number. The PI was the only one with access to survey information. The passwords to the online survey program and project materials was only be known by the PI. After the conclusion of the project, the materials (survey tools/links) and the data set was filed within the College of Nursing's secure online cloud service for six years, the required minimum amount set forth by the institution's data policy (Office for Human Research Protections [OHRP], 2018).

Due to the specific goals of this project, the pre- and post-surveys (Appendix D) were created by the PI. The surveys (Appendix D) were reviewed by three, doctorate-prepared nurse practitioner (NP) experts for accuracy and to ensure comprehensibility. Demographic data included the following: age, ethnicity, first pregnancy or baby, birthed within the last year, status of wanting to become pregnant, and if the participant was a partner of someone who is or was

pregnant (Appendix D). Also, previous perinatal anxiety and depression education and prior screening information was collected. The pre-survey assessed level of awareness of maternal mental health, knowledge of anxiety and depression (signs, symptoms, & risk factors), and the ability to identify resources for support (Appendix D). Data about perceived confidence levels to engage in self-care or seek assistance was also collected (Appendix D). The post-survey (Appendix D) contained the same questions for knowledge and confidence, but also had three brief questions assessing the effectiveness of the video technology format. Question formats contained true/false, yes/no, multiple choice, and 5-point Likert scales responses. Likert scales allowed the participants to rate their perceptions and attitudes and state the degree to which they agreed or disagreed with provided statements (Harpe, 2015). The Likert scales were formatted using a five-point scale of agreement. The agreement statements included “strongly disagree,” “disagree,” “undecided,” “agree,” and “strongly agree.”

Data Analysis

The data was analyzed using descriptive statistics to score and analyze the survey responses. The data was exported from REDCap to a secured Microsoft excel document for editing and stored on a password protected computer. The categorical results (“yes/no” responses) were presented as frequencies (percentages). For the true/false knowledge questions, the data was also analyzed as categorical with percentages to depict the frequency of the responses. The multiple-choice questions were formatted as “check all that apply.” A “1” was applied for the correct answer and “0” for the incorrect answer. Additionally, the incorrect answers were further analyzed to determine the percentages of the identification of the correct answer choices. The Likert scale results of the pre- and post-surveys were analyzed as ordinal

data and scored according to response. A “strongly disagree” was assigned a score of “1,” “disagree” was assigned a score of “2,” “undecided” was assigned a score of “3,” “agree” was assigned a score of “4,” and “strongly agree” was assigned a score of “5.” A comparison was then made using t-tests; specifically, the mean and standard deviation were used to identify the significant differences between the pre- and post-survey responses. All data was formulated and displayed as bar charts.

Scientific rigor of reliability, validity, and generalizability were maintained throughout the development and implementation of the proposed project. The educational video (Appendix E) was created based on evidence and reviewed for accuracy from content experts. The reliability and validity of the pre- and post-test surveys were peer reviewed. The video education conveyed information that is generalizable to other patients in various locations and at different points of pregnancy or postpartum.

RESULTS

The surveys and video opened on REDCap on September 28, 2020 and closed on October 11, 2020 at midnight. As planned, the Milk and Honey Facebook administrator invited members to participate by posting two announcements to their Facebook page. The announcements included the project recruitment flier and the REDCap survey link. The two announcements were posted one week apart on Monday, September 28, 2020 and Monday, October 5, 2020 at 12:00 PM MST.

Sample Size and Demographics

A total of 12 individuals followed the online link, opened the project on REDCap, and completed the demographic questionnaire. A low response rate (2.19%) was achieved as only 12

individuals out of the 546 Facebook group members participated in the intervention. Some 11 participants completed the pre-survey questionnaire. Four of the 12 participants did not continue to watch the video and complete the post-survey resulting in an attrition rate of 33.3%. Therefore, four participants were eliminated in data analysis due to incompleteness and missing data, leaving the final sample size at eight participants.

Most participants were white (83%) and between 24 and 47 ($M= 32.5$) years old. None of the participants were pregnant but 66.7% ($n=8$) stated that they were currently wanting to become pregnant. All ($n=12$) of the participants reported having children. One participant reported that they were a partner of someone who is pregnant or has had a baby in the past. Five of the participants stated that they have given birth within the last year. A total of 58.3% ($n=7$) had previous perinatal education and 75% ($n=9$) were screened for perinatal anxiety or depression in the past. Of those screened ($n=9$), 55.6% ($n=5$) were screened during a postpartum clinic visit. One participant reported being screened within a prenatal care visit and a second participant reported being screened in the hospital after giving birth. A third participant was screened during all three encounters. A fourth participant selected “other” and wrote in free text that they received mental health screening in the pediatrician’s office. Participant demographics are displayed in Table 1 below.

Table 1*Participant Demographics*

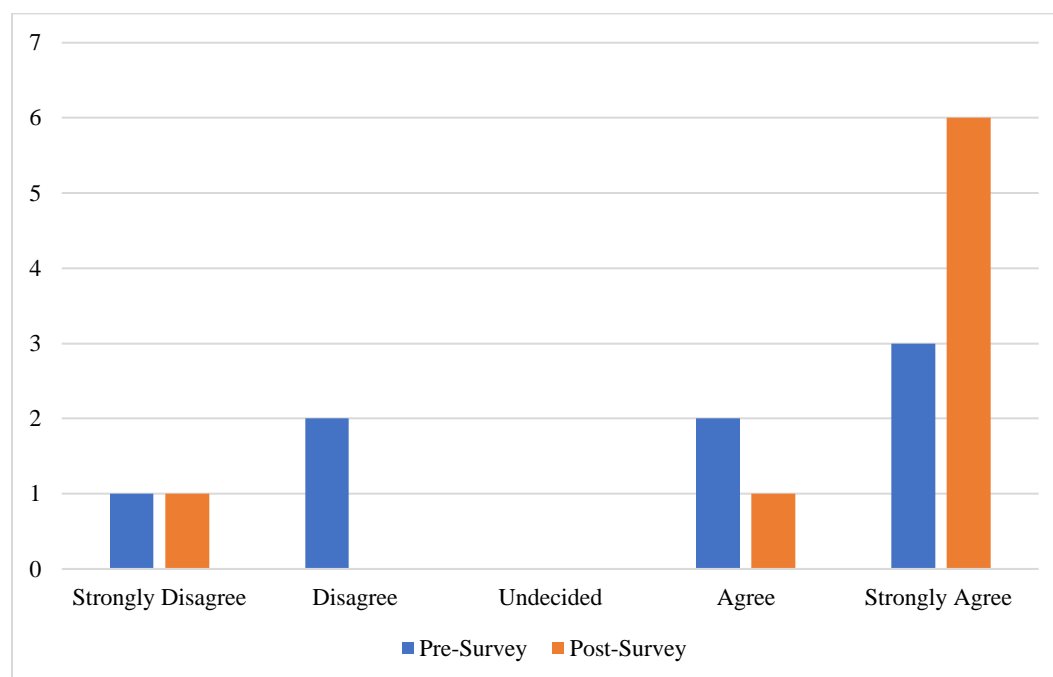
Participant	Age	Ethnicity	Pregnant	Birthed Within Last Year	Has Children	Want to Become Pregnant	Partner	Received Prior Perinatal Education	Screening History	Screening Setting
1	31	White	No	No	Yes	No	No	Yes	Yes	During a postpartum clinic visit
2	26	White	No	Yes	Yes	Yes	No	No	No	
3	36	White	No	No	Yes	No	No	No	Yes	All encounters
4	38	White	No	No	Yes	No	No	No	Yes	During a postpartum clinic visit
5	31	White	No	Yes	Yes	Yes	No	Yes	No	
6	47	White	No	No	Yes	No	No	Yes	Yes	During a prenatal care clinic visit
7	30	White	No	Yes	Yes	Yes	No	No	Yes	During a postpartum clinic visit
8	32	White	No	Yes	Yes	No	No	Yes	Yes	
9	28	Hispanic	No	Yes	Yes	No	No	No	Yes	In the hospital after giving birth
10	24	White	No	No	Yes	Yes	Yes	Yes	Yes	During a postpartum clinic visit
11	36	White	No	No	Yes	No	No	Yes	No	
12	31	Hispanic	No	No	Yes	No	No	Yes	Yes	Pediatricians office
<i>MEAN</i>	32.5									

Outcomes

Due to the small sample size, paired t-tests were used to analyze pre- and post-survey differences to determine degree of improvement or changes after completing the intervention. The pre- and post-survey data was divided into the following three categories for analysis: awareness, knowledge, and confidence.

Awareness

Awareness of maternal mental health was measured using a 5-point Likert scale. Question number one on the pre- and post-surveys addressed participant's agreement with the following statement: "I am aware of the importance of maternal mental health on mother and child health outcomes." A "strongly disagree" was assigned a score of "1," "disagree" was assigned a score of "2," "undecided" was assigned a score of "3," "agree" was assigned a score of "4," and "strongly agree" was assigned a score of "5." One participant (n=1/8) reported "strongly disagree" on the pre-survey and on the post-survey. Two participants (n=2/8) reported "disagree" on the pre-survey. On the post-survey, these participants changed their responses to "agree" and "strongly agree." No participants selected undecided on the pre- or post-surveys. Two participants (n=2/8) selected "agree" on the pre-survey. Both of these participants then selected "strongly agree" on the post-survey. Three of the participants chose "strongly agree" on the pre-survey, ultimately selecting the same response for the post-survey. Overall, half (50%; n=4) of participants increased their measure of agreement on the post-survey in comparison to the pre-survey. The pre-survey mean was 3.50 with a standard deviation (SD) of 1.60. The post-survey mean and SD was 4.38 and 1.41, respectively. The improvement of awareness of maternal mental health was not statistically significant (p=0.06).

Figure 3*Pre- and Post-Survey Results: Question #1 – Awareness***Table 2***Differences of Survey Responses – Awareness*

	Pre-Survey	Post-Survey	p-value*
Mean (sd)	3.50 (1.60)	4.38 (1.41)	0.06

* $p < 0.05$, paired t-test**Knowledge**

Knowledge levels and were measured with 5-point Likert scale questions, multiple choice, and a true/false question. Knowledge assessment included risk factors, signs and symptoms of anxiety and depression, and local support group identification.

Risk factors. Question number two on the surveys assessed whether the participants could accurately identify the risk factors for developing anxiety and depression. The question

was formatted as check all that apply. A “1” was applied for the correct answer and “0” for the incorrect answer. Six participants (n=6/8) answered the question correctly. Of the two participants that did not answer the question correctly on the pre-survey, one of the participants improved and obtained a correct answer on the post-survey. The pre-survey mean was 0.75 with a SD of 0.46. The post-survey mean was 0.88 and SD of 0.35. The difference in scores for this question on the pre- and post-surveys was insignificant ($p=0.351$).

Figure 4

Pre- and Post-Survey Results Question 2 – Knowledge of Risk Factors

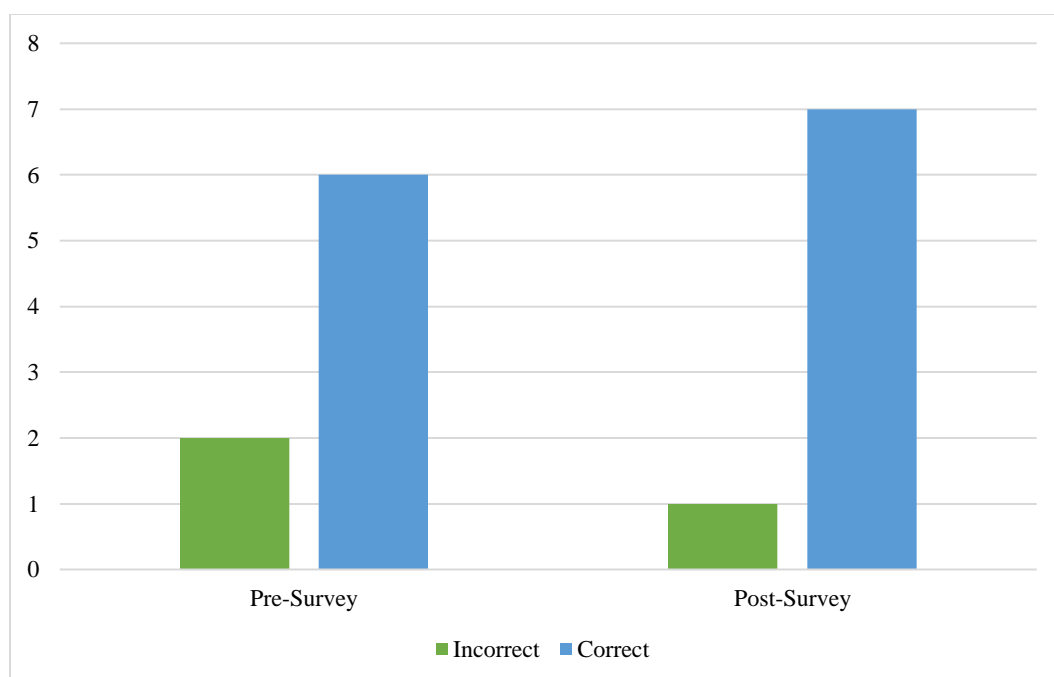


Table 3

Differences of Survey Responses – Knowledge of Risk Factors

	Pre-Survey	Post-Survey	p-value*
Mean (sd)	0.75 (0.46)	0.88 (0.35)	0.351

* $p < 0.05$, paired *t*-test

Symptoms of depression. Question three on the surveys assessed the participants' ability to identify depression symptoms. Six participants answered this question correctly ($n=6/8$) on the pre-survey. The two participants that did not answer the question correctly selected the option of "doing activities that I enjoy" as a symptom of depression. One participant answered the question correctly on the pre-survey but incorrectly on the post-survey. The mean and SD on the pre-survey was 0.75 and 0.46. On the post-survey, the mean was 0.63 and SD was 0.52. Overall, the scores on question three actually declined on the post-test resulting in no significant difference ($p=0.351$).

Figure 5

Pre- and Post-Survey Results Question 3 – Knowledge of Depression Symptoms

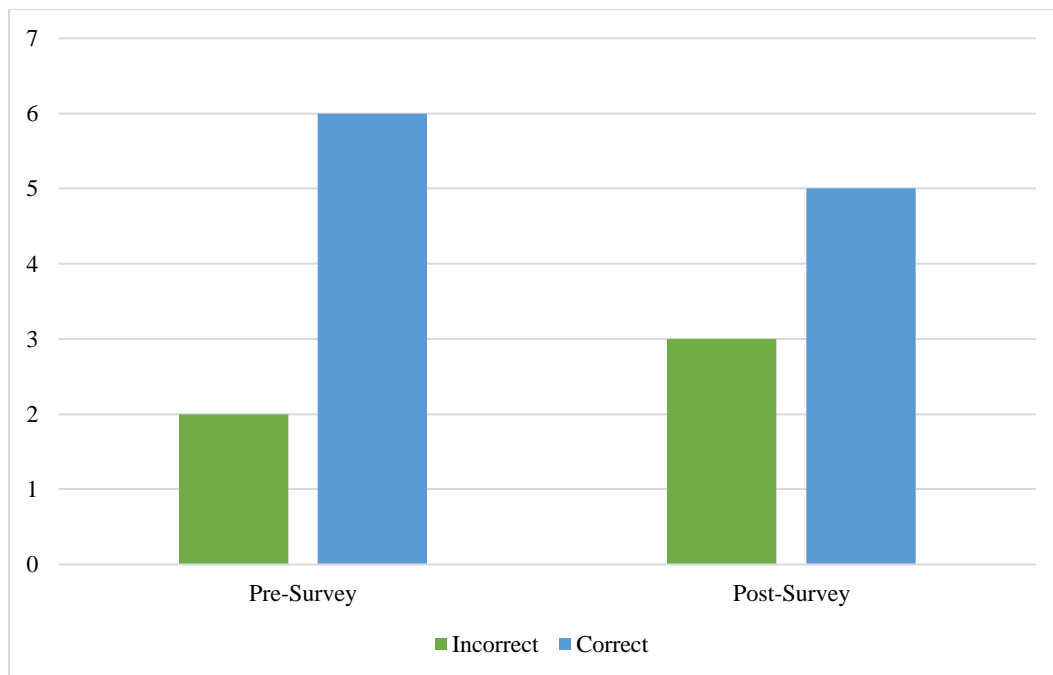


Table 4*Differences of Survey Responses – Knowledge of Depression Symptoms*

	Pre-Survey	Post-Survey	p-value*
Mean (sd)	0.75 (0.46)	0.63 (0.52)	0.351

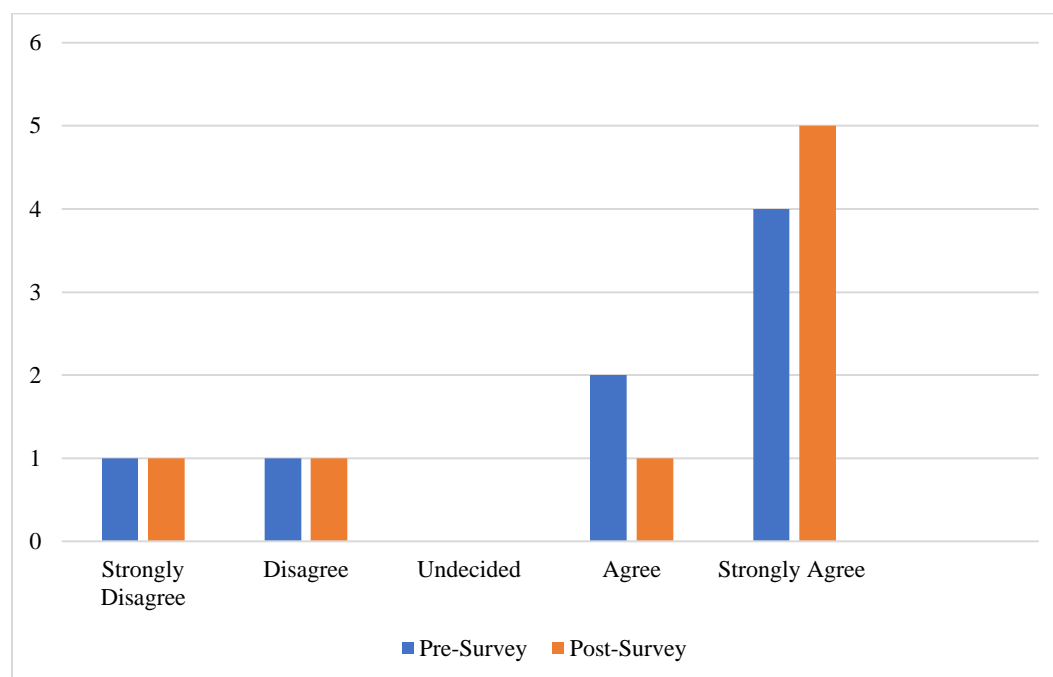
* $p = < 0.05$, paired *t*-test

Symptoms of anxiety. Question number four included the following true/false statement: symptoms of anxiety include nausea and shortness of breath. All participants (8/8) answered this question correctly on both the pre- and post-survey.

Activity for mental health. Participant knowledge of self-care activities were assessed by agreement statements using the Likert format. Question number five asked participants to reflect if they could identify one activity to try to help care for themselves and their mental health. Four (n=4/8) participants responded “strongly agree” to this statement on the pre-survey. Two participants (n=2/8) selected “agree” on the pre-survey. No participants chose undecided on either the pre- or post-surveys. One participant (n= 1/8) selected “disagree” and another chose “strongly disagree” (n=1/8) on both of the pre- and post surveys. One participant increased their agreement from “agree” to “strongly agree” on the post-survey questionnaire. The mean and SD were 3.88 and 1.55 on the pre-survey. The mean and SD were 4.00 and 1.60 on the post-survey. Knowledge levels of identifying an activity to help with self-care and mental health after viewing the video education were insignificant as $p = 0.351$.

Figure 6

Pre- and Post-Survey Results Question 5 – Knowledge of One Activity

**Table 5**

Differences of Survey Responses – Knowledge of Activity for Mental Health

	Pre-Survey	Post-Survey	p-value*
Mean (sd)	3.88 (1.55)	4.00 (1.60)	0.351

* $p < 0.05$, paired *t*-test

Local resource. Question number six on the survey assessed the participant’s knowledge about a local resource or place to contact if they were in need of mental health services. Three participants (3/8) stated “strongly agree” on the pre-survey. One participant (1/8) chose “agree” on both the pre- and post-surveys. One participant (1/8) selected “undecided” on both the pre- and post-surveys. One participant (1/8) marked “disagree” on both questionnaires. One participant (1/8) chose “strongly disagree” before and after the implementation. One participant

(1/8) changed their “strongly disagree” to a “disagree” on the post-survey. The pre-survey mean was 3.25 with a SD of 1.75. The post-survey mean was 3.36 with a SD of 1.60. The comparison of knowledge relating to local resources was not statistically significant ($p=0.351$).

Figure 7

Pre- and Post-Survey Results Question 6 – Knowledge of Local Resource

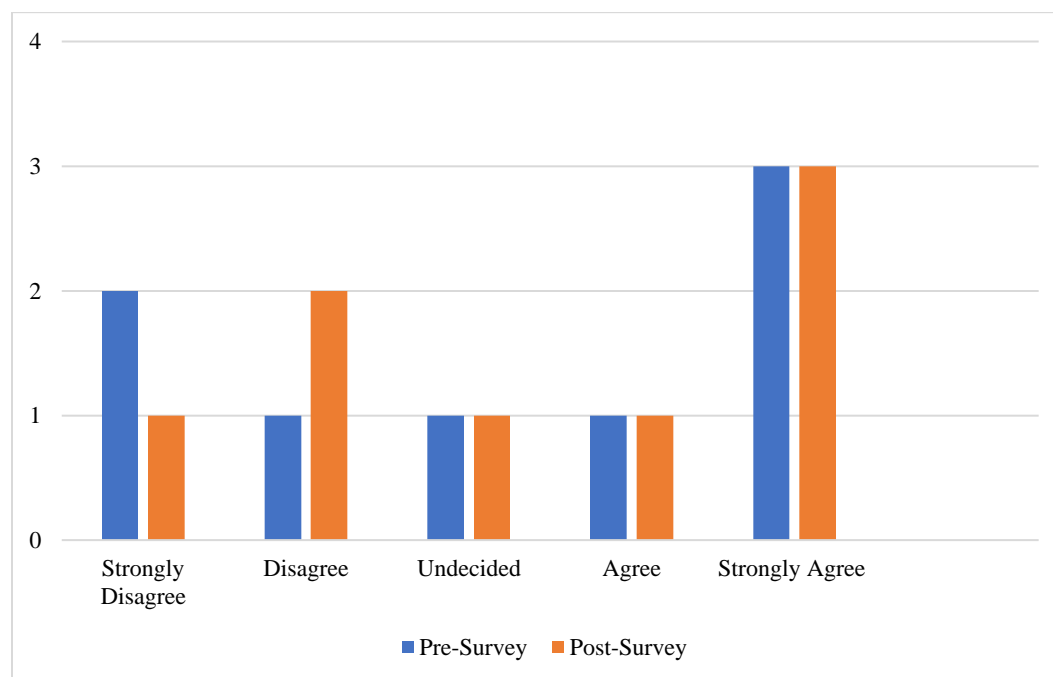


Table 6

Differences of Survey Responses – Knowledge of Local Resource

	Pre-Survey	Post-Survey	p-value*
Mean (sd)	3.25 (1.75)	3.36 (1.60)	0.351

* $p < 0.05$, paired t-test

Confidence

The surveys assessed participants’ confidence levels about knowing how to get help if they were to experience perinatal depression or anxiety. Three of the participants ($n=3/8$) stated

they “strongly agree” that they knew how to get help if they felt depressed or anxious on both the pre- and post-survey. Two pre-survey participants (n=2/8) stated that they “agree.” One of these participants selected “disagree” on the post-survey. One participant inputted “strongly disagree” on the pre-survey but then increased their response to “agree” on the post-survey. Another participant also increased their original agreement statement on the pre-survey from “disagree” to “agree” after viewing the video. One participant selected “strongly disagree” on both of the questionnaires. The pre-survey mean for this question was 3.38 with a SD of 1.77. The post-survey mean was 3.88 with a SD of 1.36. No significant differences were found for confidence levels (p=0.351).

Figure 8

Pre- and Post-Survey Results Question 7 – Confidence of How to Get Help

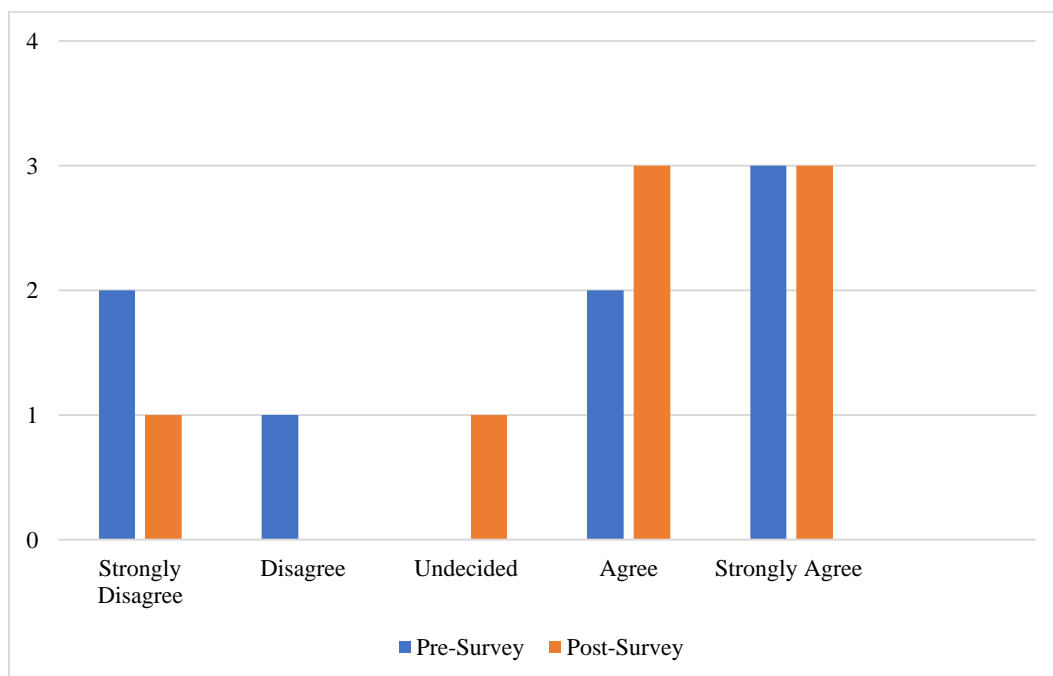


Table 7*Differences of Survey Responses – Confidence of How to Get Help*

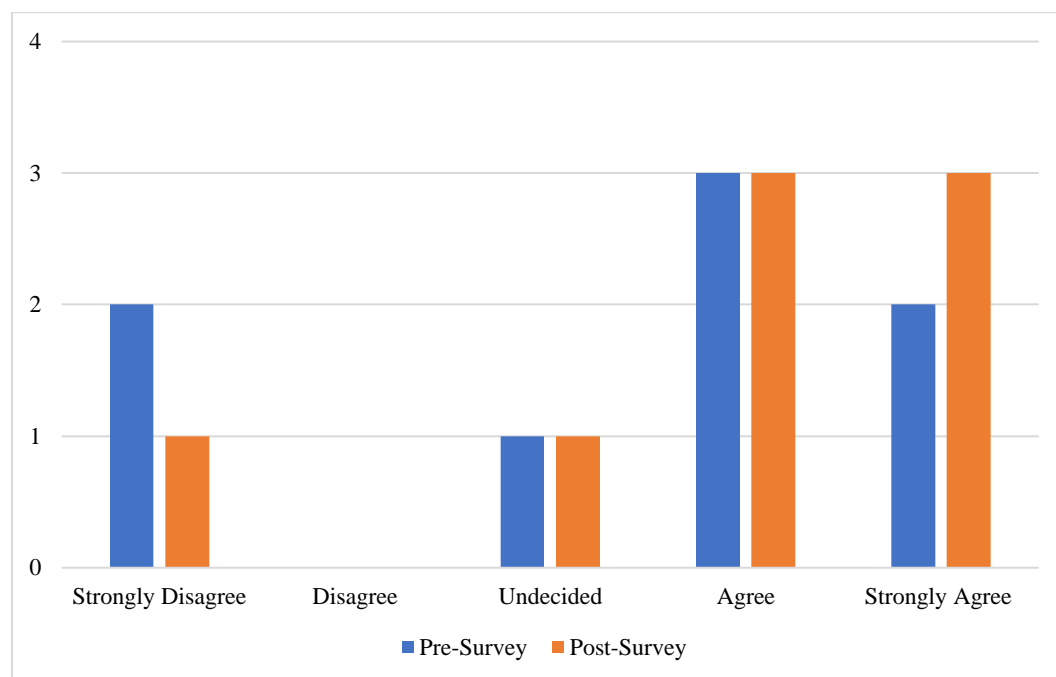
	Pre-Survey	Post-Survey	p-value*
Mean (sd)	3.38 (1.77)	3.88 (1.36)	0.351

* $p = < 0.05$, paired *t*-test

The last two questions on the surveys included assessments of agreement on whether the participant will ask for help and discuss their feelings if they feel that they are experiencing anxiety or depression. Question number eight assessed the degree to which participants will seek help and talk about their emotions with a partner, family member, or support system. Two participants (n=2/8) stated that they “strongly agree” on the pre- and post-surveys. Three participants (n=3/8) reported “agree” to question eight on the pre-survey. One of these participants increased their “agree” on the pre-survey to a “strongly agree” on the post-survey. One person (n=1/8) marked “undecided” on their pre-survey but increased to an “agree” on the post-survey after watching the video. No participants chose a “disagree” to the statement on both questionnaires. Two participants (n=2/8) selected “strongly disagree” on the pre-survey, however, one of these participants changed their response to “undecided” on the post-survey response. The pre-survey and post-survey means were 3.38 and 1.60 with SDs of 3.88 and 1.36 respectively. The differences in means was not significant with a p-value of 0.104.

Figure 9

Pre- and Post-Survey Results Question 8 – Confidence to Seek Help from Partner / Family / Support

**Table 8**

Differences of Survey Responses – Confidence to Seek Help from Support

	Pre-Survey	Post-Survey	p-value*
Mean (sd)	3.38 (1.60)	3.88 (1.36)	0.104

* $p < 0.05$, paired *t*-test

Question number nine assessed the degree to which participants would seek help from their healthcare provider if they felt anxiety or depression. Two participants ($n=2/8$) responded with “strongly agree” on the pre- and post-surveys, and two participants ($n=2/8$) chose “agree” on both of the questionnaires. Two ($n=2/8$) participants increased their statements from “agree” on the pre-survey to “strongly agree” on the post-survey. No participants chose “undecided” on

the pre-survey, however, one participant (n=1/8) chose “undecided” on the post-survey which was an increase from a “disagree” selection before watching the video. One participant’s response did not change after watching the video as they reported a “strongly disagree” on both questionnaires. There was an increase in the means and SDs from the pre-survey (M=3.63, SD=1.41) to the post-survey (M= 4.00, SD=1.41), however, it remained not statistically significant as $p=0.080$.

Figure 10

Pre- and Post-Survey Results Question 9 – Confidence to Seek Help from Provider

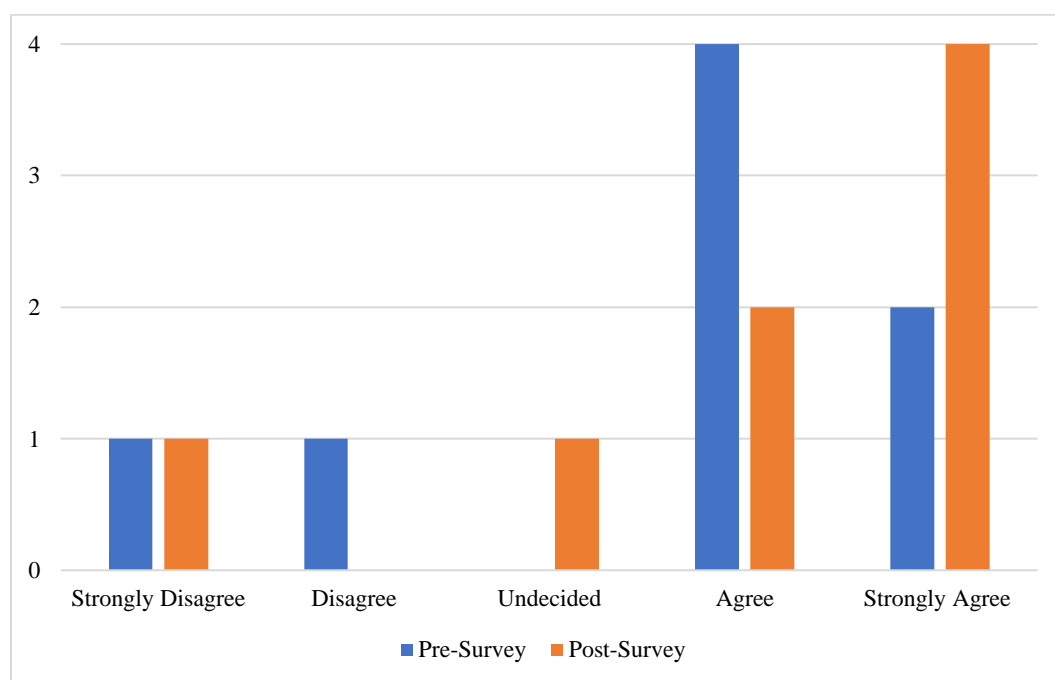


Table 9

Differences of Survey Responses – Confidence to Seek Help from Provider

	Pre-Survey	Post-Survey	p-value*
Mean (sd)	3.63 (1.41)	4.00 (1.41)	0.080

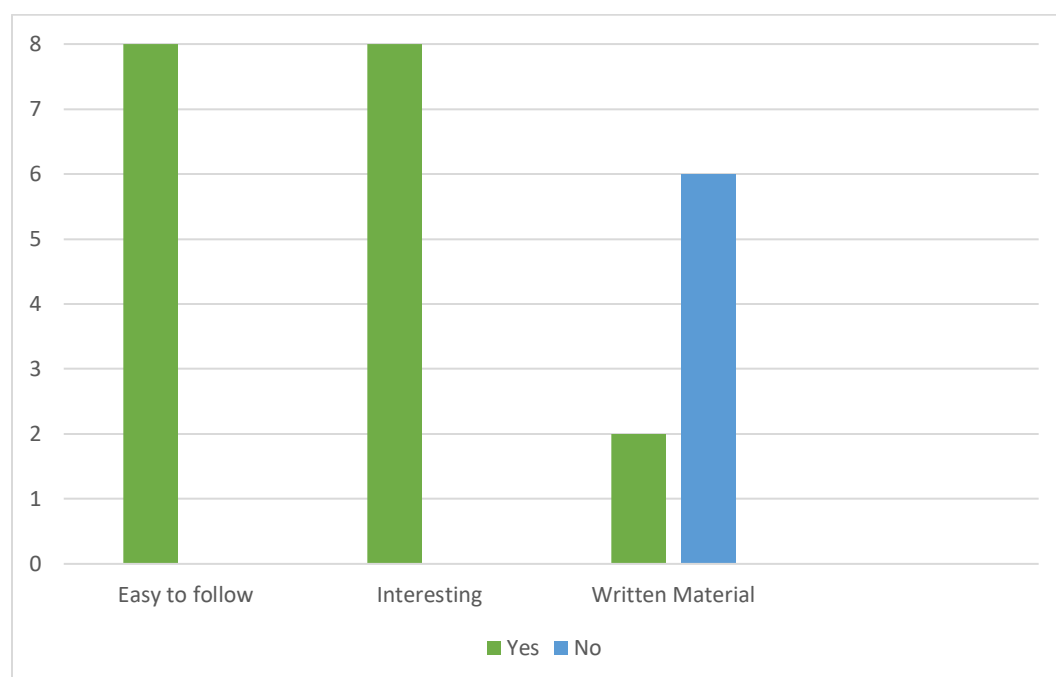
* $p < 0.05$, paired *t*-test

Video Format

Data regarding the actual video format as an educational method was assessed using yes/no questions. All of the participants (n=8/8) stated that the video was easy to follow and found that the video was interesting. The majority of participants (n=6/8) stated that they would not rather learn about the content with written material. Two (n=2/8) participants stated they would rather learn about perinatal anxiety and depression with written material.

Figure 11

Participant Views on Video Format



Summary of Individual Participant Findings

Due to the small sample size, individual participant's responses to the surveys were reviewed to identify degree of improvement of scores after watching the video education. Seven out of eight participants increased their score/agreement on the survey questions in at least one

category (awareness, knowledge, confidence). Two of the eight participants increased their score agreement in all three categories. One participant's score or agreement levels on the surveys did not change at all pre- and post-intervention. See Appendix I for a summary table of results by participant.

DISCUSSION

Summary

Maternal mental health disorders, such as anxiety and depression, are prevalent among pregnant and postpartum women (Fairbrother, 2016). Perinatal mental health issues can have profound effects on the mother, baby, and family unit if not identified and treated (Zietlow et al., 2019). Screening tools are utilized in this patient population to help identify mood disorders; however, screening practices vary by clinical setting, provider ability and time to perform screening, and individual's reluctance to report actual emotions (Higgins et al., 2018; Kingston et al., 2015; Pace et al., 2018; Taouk et al., 2018). The social stigma surrounding mental health leads to feelings of indignity resulting in underreporting and recognition (Pace et al., 2018). In addition to screening, education and resources are necessary to support maternal mental health (Committee on Obstetrics Practice, 2018; Kendig et al., 2017; USPSTF, 2016).

The overarching project objective was to implement an educational video to increase pregnant or postpartum mothers' knowledge and awareness of perinatal mood disorders of anxiety or depression. This project aimed to increase knowledge and awareness of perinatal anxiety and depression through an educational video. Additionally, it was also intended that the video would increase confidence levels in participants to discuss maternal mental health and pursue assistance or guidance if needed. While participation was limited, the findings support

that providing a video is an effective, alternative method to inform mothers, partners, and families about maternal mental health. The results of this project show that it is imperative for healthcare professionals to provide evidence-based education to increase awareness, knowledge, and confidence of perinatal mental health disorders to promote positive mental health.

Interpretation

Awareness

This QI project confirms that the evidenced-based educational video was successful in increasing awareness of perinatal anxiety and depression. Question one on the survey assessed the degree of agreement of the participant's awareness of maternal mental health. Half of the participants increased their agreement scores regarding awareness of the importance of maternal mental health after watching the educational video.

All the study participants reported they have children and were screened at some point during their pregnancy or postpartum experience; representing that they may have had pre-existing knowledge and experiences related to maternal mental health. Surprisingly, the pre- and post-survey analysis indicates the video increased participant awareness of the impact of maternal mental health issues. It is likely women who have never given birth and who are pregnant for the first time, may be positively impacted even more by this intervention without having similar prior exposure to the perinatal process.

Knowledge

To assess the gain in participants' knowledge and intent to utilize information resources offered in the video, participants were asked questions regarding risk factors for developing anxiety and depression, symptoms of depression and anxiety, a way to prevent or reduce anxiety

and depression symptoms, and to identify available supportive resources. Question number two tested the knowledge gained by participants in their understanding of the risk factors for perinatal anxiety and depression. Participants were asked to choose all of the risk factors that applied. Two participants did not select the answer option of “being pregnant” on the pre-survey, but one of them did select the answer on the post-survey. Therefore, the participant did learn that pregnancy is in fact a risk factor for developing a mental health disorder such as anxiety and depression.

Participants were asked to check all that apply to identify symptoms of depression on question number three of the surveys. The majority of the participants knew symptoms of depression before and after watching the video, therefore, the video did not add to any pre-existing knowledge. For the two participants who selected “doing activities that I enjoy,” they may have been confused by the wording of the question because the video states that a symptom of depression is NOT doing activities that are enjoyable. It may be concluded that the statement was misread or misinterpreted. Question four asked participants to assess their knowledge of symptoms of anxiety. All participants selected the correct answer on the pre- and post-surveys. This question was formatted as true or false on the survey, which may not have depicted the appropriate level of detail of knowledge gained.

Question five assessed to the degree of knowledge participants had in identifying an activity that would help care for themselves and their mental health. Half ($n=4/8$) of the participants were already knowledgeable about activities they could engage in to optimize their mental health prior to the intervention. This could be related to the characteristics of the sample that the participants are already experienced mothers and clients of the breastfeeding and postpartum support center that offers supports services and group chats to women and their

families. Although there was not much significant difference between pre- and post surveys, at least one participant went from “agree” to “strongly agree” so therefore, some knowledge was gained.

Question six assessed if the participants acquired knowledge about local resources and support available if they had mental health concerns. Only three out of the eight participants stated that they were knowledgeable about local resources and contacts for mental health services. Even after watching the video, five participants reported that they were “undecided” or “disagreed.” It was anticipated that the list of resources and contact information that were provided in the video would have increased more than indicated by the data. The reasons of this lack of increase in knowledge could be interpreted in several ways. First, in the video, the resources are verbally explained while a name and their website and phone number is visually offered. More detail about the organizations and how they can provide help may assist in increased recognition. Participants were perhaps not given enough information or time to document relevant information. Secondly, the initial plan for this project was to provide a written informational pamphlet containing resource information along with the video so that participants had this information in written form. It could be that this portion of the education intervention was not robust enough for participants to believe that they gained significant knowledge of resources available to them.

Confidence

Confidence levels of knowing how to obtain assistance if participants were to have anxiety and/or depression symptoms was assessed on question number seven. Two participants increased their level of agreements on their pre- and post-surveys by going from “strongly

disagree” (n=1) or “disagree” (n=1) to agree. Therefore, the video had some impact on participant confidence levels in knowing how to get help if they were to feel anxious or depressed, which is a positive response.

Question 8 and 9 on the surveys assess to what degree a participant will seek help if they feel they have perinatal anxiety or depression or symptoms thereof. Question eight acknowledges whether a participant will reach out to a partner, family member, or support system. Two positive increases were observed, one being significant as the participant went from “undecided” to selecting “agree” that they would seek help from a partner or family member after watching the educational video. Although not substantially significant, the fact that one person was undecided before watching video and then felt confident enough after watching the video to seek help from a partner/family member gives hope to the fact that the video achieved its purpose for at least one participant. Two participants increased their confidence levels from “agree” to “strongly agree” which signifies that they may have been impacted by the midwife’s comments in the video in feeling more comfortable to approaching a healthcare provider. Curiously, one participant selected “undecided” after watching the video from previously selecting “disagree.” This may show how the video may have encouraged the participant to at least consider seeking help from a health care provider when originally they would have not done so. Perhaps the information delivered in the video provided some thought development and contemplation.

Overall, participants found that the video was interesting and easy to follow. The use of video as an educational tool is an effective and positive way to present information about perinatal anxiety and depression. The results of the video format assessment was expected as research has shown that technology and video education have been utilized and accepted by the

pregnant and postpartum patient population as a form of education (Mula et al., 2018; Noben et al., 2019; O’Sullivan et al., 2019; Pitts et al., 2015). As found in previous studies, video education was determined useful to increase knowledge and promote positive actions. Specifically, Pitts et al (2015) increased breastfeeding rates postpartum by distributing education materials to new mothers via electronic tablets. 67% of participants reported that the modules empowered them breastfeed and successful breastfeeding occurred in over 70% of the study participants. Similarly, knowledge and practice levels increased even though the majority of participants had previous breastfeeding experiences (Pitts et al., 2015). Even in studies which did not show a statistically significant improvement in scoring as seen in this project’s results, positive benefits ensued as participants reported they felt more prepared after watching the video education and enjoyed the video format (Noben et al., 2019).

Summary of Individual Participant Findings

Four of the participants who did not continue the intervention after completing the pre-survey stated that had received education about perinatal anxiety and depression in the past. This may have been a contributing factor to why they did not move forward in the intervention. Most participants may have been more knowledgeable due to their history. However, even though there was already high baseline knowledge, there were still cases where they did gain knowledge after watching the video education. One participant who did not adjust their responses selected “strongly disagree” on both the pre- and post-survey. It is unclear whether or not the participant truly did not gain any knowledge or education based on the consistency of responses. Interestingly, the two participants who adjusted their score/agreement answer selections in a “positive” direction in all three categories reported that they had no previous perinatal anxiety or

depression education or screening. If this video was initially to be used in the prenatal environment with women early in their pregnancies, especially with first time mothers, the results would most likely be different as they may not have similar experience to these participants in this sample.

Strengths

This project successfully used an online social media platform as a way of informing and educating women and their families on the importance of maternal mental health. No technological issues were observed. In addition to the data analysis, the project was well received by the Facebook group. On the first Facebook post, six people “liked” the post. On the second Facebook post, four people “liked” the post. One member commented “Thank you for sharing, this is a very important topic.”

Limitations

The limitations of this project include sample size, survey questionnaires, participants, and the effects of the COVID-19 pandemic. The setting was originally going to take place within a prenatal clinic but was instead moved to a community setting within an online platform as in-person healthcare visits were minimized during the pandemic. The patient population was expanded to include postpartum mothers and their partners/families within a community environment. The original project idea was that the participant would be invited to participate in the project within the prenatal clinic and watch the educational video during one their routine prenatal care appointments. Recruitment was altered from a face-to-face and more focused interaction with potential participants that would have occurred in the clinical environment to a more impersonal setting as experienced on Facebook. As a result, this process impacted the

potential number of respondents as Facebook offered a less controlled environment for obtaining participants. Even though the Facebook group had over 500 members, participants may have not received the notification of the study if their individual settings do not support notifications from the group. In an attempt to mitigate this issue, the project materials were posted twice on the Facebook group to encourage participation. The lack of interaction between the PI and potential participants could have contributed to the low response rate. Additionally, the low response rate could have been impacted by COVID-19 effects, particularly in relation to the selected patient population. Due to social distancing, some mothers/fathers and families were required to adjust their children's education and/or their employment to virtual or online. The lack of time to complete the project as well as a possible disinterest in any more electronic usage than they already were experiencing, may have contributed to decreased interest or reduced participation. The length of the actual video was 22 minutes which could have been a factor further limiting participation. One participant did the pre-survey as three of the participants completed the pre-survey but did not decide to move forward and watch the video. Given such a low participation rate, this project may not be generalizable to a larger population. The COVID-19 pandemic also affected the creation of the educational video. The interviews with the mother and midwife had to occur via a recorded Zoom interview rather than face-to-face with the PI leading to a less impactful and seamless presentation.

The initial focus of the project aimed to target the pregnant patient population during their prenatal care in order to promote early awareness and prevention. The study sample was comprised of women who have already gone through the prenatal and postpartum process and already have children. Based on the data, these women already had been screened for perinatal

anxiety and depression at some point during their journey. This could bias results as participants may have been more familiar with the content provided in the video. Because of this, the intervention may not have had a significant impact (as the data shows) on their maternal mental health awareness, knowledge, and confidence, thus, limiting the real impact of the intervention and the generalizability of this study. To get a better idea of the impact of the intervention as the initial study intended, it would be best to obtain participants earlier in their pregnancy and postpartum experience. This could be why the outcomes of the study were not as expected and statistically insignificant. Further investigations should focus on incorporating mental health video education within other settings or environments, such as a prenatal care clinic, to acquire more participants with a variety of backgrounds, knowledge level, and pregnancy/motherhood experiences. This way, it can be determined if perinatal anxiety and depression video education is generalizable to this patient population.

Implications (Practice, Education, Research and Policy)

This project included pertinent education topics related to perinatal anxiety and depression. The project demonstrates that video education is valued and does increase awareness levels. The findings of this project support the current clinical practice guidelines in regards to the importance of including education as part of comprehensive maternal mental health care (Kendig et al., 2017). This project could also be used to educate healthcare providers on the impact of perinatal mental health discussion and education and encourage them to incorporate maternal mental health into their practice.

Video education can provide women the knowledge and support they need during their pregnancy and motherhood journeys. The video used in this project could be a supplemental

resource distributed to the breastfeeding and postpartum support center clients as part of their care. The video could also be implemented in healthcare clinics who provide care to pregnant or postpartum women (i.e., in waiting rooms) to increase awareness of perinatal anxiety and depression. Healthcare providers can use this video to inform their patients where barriers to discuss perinatal mental health may exist (i.e., decreased time). This project should prompt healthcare providers to conduct further research in the clinical setting.

Future research may include integrating the educational video in a prenatal clinic environment to determine if the education increases knowledge among patients who are currently pregnant and to identify the video's impact on perinatal anxiety and depression development or acknowledgement postpartum. If found effective, healthcare providers could then incorporate video education into their routine care and practice. Future local healthcare organizational policies should be created to include educational interventions such as the video used in this project because of its positive impact on awareness and knowledge of maternal mental health.

The results of the project were presented to the center owner during an online meeting. The discussion included the positive outcomes achieved as well as the limitations of the project. A plan for future implementation and sustainability included refining the video (such as possibly shortening the length) and presenting the video in-person during one of the center's support group meetings. This may be employed once in-person visits and support groups are reinitiated to abide by social distancing guidelines and procedures. The center owner and PI agreed that an in-person presentation of the video may facilitate open discussion in a supportive environment which may ultimately increase participation and perinatal anxiety and depression knowledge and awareness.

DNP Essentials Addressed

The Doctor of Nursing Practice (DNP) essentials are the foundation in which advanced practice nurses develop, build, and maintain practice competencies and knowledge (American Association of Colleges of Nursing [AACN], 2006). This project encompasses three of the DNP essentials.

DNP Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice

DNP Essential III is reflected in this project as evidence-based literature was reviewed to support the project purpose. This project incorporated the utilization of evidence and an analytical process to create the educational intervention and improve current practice and healthcare outcomes.

DNP Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care

DNP Essential IV acknowledges the use of technology to improve patient care (AACN, 2006). This project aligns with this DNP essential as it investigated the use of video as an educational tool and its effect on knowledge acquisition. It also utilized the internet and social media to successfully employ health education.

DNP Essential VII: Clinical Prevention and Population Health

DNP Essential VII identifies the importance of creating healthcare initiatives that value preventative health and aim to improve the well-being of large patient populations (AACN, 2006). This project exemplifies this essential as it sought to educate and promote early

identification and prevention of perinatal mental health disorders among pregnant/postpartum women and their partners and families within the community.

Conclusions

Video education regarding perinatal anxiety and depression is a unique way to increase awareness and knowledge and encourage individuals to pursue help and support from others. Unforeseen circumstances of the COVID-19 pandemic subsequently shifted the project to an online mode of delivery and the extended length of the video likely produced the decreased participation rates. Although, a small sample size considerably limited data analysis and no statistically significant differences were observed of the study sample as a whole, some individual participants did increase their individual awareness, knowledge, and confidence levels regarding maternal mental health. Therefore, video education is an appropriate and effective way to increase awareness and educate the public on the important components and resources related to perinatal anxiety and depression.

Plan for Sustainability

In order for this project to be sustainable, the content must be reviewed frequently as reflected using the PDSA cycle so that changes can be made to enhance implementation and response. Suggested improvements include updating the education content based on the latest evidence and decreasing the overall length of the video. In-person recruitment could help obtain a larger sample size so that the research may be significant and generalizable. Written pamphlets with resources to accompany the video would be helpful.

Plan for Dissemination

The PI conducted an online Zoom meeting with the center owner to review the project implementation process, results, and key findings. A final defense presentation of the project and results with the project committee members and center staff was conducted. The PI posted a short review of results and a link to the educational video on the Families of Milk and Honey Facebook group. The video was also made available for viewers on Vimeo, an online video sharing website. The owner of Milk and Honey plans to distribute the link to their clients as they see fit. Future implementation of the perinatal anxiety and depression educational video for data collection and analysis is being considered.

Funding

No funding was received for this project. The PI provided the means for the two \$25 Starbucks gift cards awarded to two raffle winners as a thank you for their participation.

APPENDIX A:

MILK & HONEY SITE APPROVAL/THE UNIVERSITY OF ARIZONA INSTITUTIONAL
REVIEW BOARD APPROVAL LETTER



July 31, 2020

University of Arizona Institutional Review Board
 c/o Office of Human Subjects
 1618 E Helen St
 Tucson, AZ 85721

Please note that Mrs. Mallory Ketterer, UA Doctor of Nursing Practice student, has permission of the Milk and Honey Specialized Breastfeeding and Postpartum Center to conduct research via our private Facebook group for her project, "Utilizing Video Education to Increase Knowledge and Awareness of Perinatal Anxiety and Depression."

Mrs. Ketterer will present an educational video on perinatal anxiety and depression and conduct pre and post surveys of women and family members who are established clients of the center. She will recruit participants via our online Facebook group titled "Families of Milk and Honey." Participants will be able to view a recruitment flier and follow an online link provided within the Facebook group post to participate in the study. A description of the project, what participants will be asked to do, and the time involved will be provided for the participants as a disclosure statement document within the online study platform. Before viewing the video, the participants will complete the online pre survey. After watching the video, the participants will complete the online post survey. Mrs. Ketterer's activities will be completed by November 1, 2020.

Mrs. Ketterer has agreed to provide my office a copy of the University of Arizona IRB approval document before she recruits participants. She will also will present aggregate results to the providers at their monthly staff meeting or via an online zoom meeting.

If there are any questions, please contact my office.

Signed,

Crissi Blake, BSN, RN, IBCLC
 Co-Owner of Milk & Honey
 Specialized Breastfeeding & Postpartum Center
 3844 East Pima Street
 Tucson, AZ 85716
 520-477-7752



THE UNIVERSITY OF ARIZONA
**Research, Discovery
 & Innovation**

Human Subjects
 Protection Program

1618 E. Helen St.
 P.O.Box 245137
 Tucson, AZ 85724-5137
 Tel: (520) 626-6721
<http://rgw.arizona.edu/compliance/home>

Date: August 24, 2020
Principal Investigator: Mallory Leigh Ketterer
Protocol Number: 2008974917
Protocol Title: Utilizing Video Education to Increase Knowledge and Awareness of Perinatal Anxiety and Depression

Determination: Approved
Expiration Date: August 23, 2025

Documents Reviewed Concurrently:

Data Collection Tools: *APPENDIX D Evaluation Instruments.docx*
HSPP Forms/Correspondence: *Appendix for Alteration-Waiver of Consent or PHI.pdf*
HSPP Forms/Correspondence: *Appendix for Vulnerable Populations 8.21.pdf*
HSPP Forms/Correspondence: *Ketterer IRB Human Research Application 8.19.pdf*
HSPP Forms/Correspondence: *Ketterer List of Research Personnel.pdf*
Informed Consent/PHI Forms: *Disclosure Form FINAL EDIT-1.docx*
Informed Consent/PHI Forms: *Disclosure Form FINAL EDIT-1.pdf*
Other Approvals and Authorizations: *APPENDIX A- NEW Site Authorization Letter.pdf*
Other Approvals and Authorizations: *COI Certification Complete for 2008974917.msg*
Other Approvals and Authorizations: *Midwife Video Release copy.pdf*
Other Approvals and Authorizations: *Nolan Video Release Form.pdf*
Participant Material: *APPENDIX E Perinatal Anxiety and Depression Video Script.docx*
Recruitment Material: *APPENDIX C FB post.docx*
Recruitment Material: *APPENDIX C FLYER edited.docx*

Regulatory Determinations/Comments:

- The project is not federally funded or supported and has been deemed to be no more than minimal risk.
- The project listed is required to update the HSPP on the status of the research in 5 years. A reminder notice will be sent 60 days prior to the expiration noted to submit a 'Project Update' form.

This project has been reviewed and approved by an IRB Chair or designee.

- The University of Arizona maintains a Federalwide Assurance with the Office for Human Research Protections (FWA #00004218).
- All research procedures should be conducted according to the approved protocol and the policies and guidance of the IRB.
- The Principal Investigator should notify the IRB immediately of any proposed changes that affect the protocol and report any unanticipated problems involving risks to participants or others. Please refer to Guidance Investigators Responsibility after IRB Approval, Reporting Local Information and Minimal Risk or Exempt Research.

APPENDIX B:
CONSENT DOCUMENT (DISCLOSURE FORM)

Utilizing Video Education to Increase Knowledge and Awareness of Perinatal Anxiety and Depression

Principal Investigator: Mallory Ketterer, BSN, RN, DNP Candidate

The purpose of this research project is to increase awareness and knowledge maternal mental health disorders, specifically anxiety and depression among pregnant or postpartum women and their families through a video. The goal is to educate about the prevalence, risk factors, signs and symptoms, treatment and provide information about local supportive resources available in Tucson, AZ.

If you choose to take part in this project, you will be asked to:

- 1) Complete a short pre-survey before the video presentation
- 2) View the video presentation
- 3) Complete a short post-survey after the video presentation

It will take no more than 30 minutes to watch the video and complete the surveys. There are no foreseeable risks associated with participating. Benefits of participation may include increase in knowledge about perinatal mental health issues specifically anxiety and depression, supportive resources available, and learning ways to improve overall mental health and well-being.

If you choose to participate in the project, participation is voluntary, refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may skip any question that you choose not to answer and suspend your participation at any time. By participating, you do not give up any personal legal rights you may have as a participant in this project.

Your survey responses will be anonymous. Your name will not be collected or linked to your answers. Upon completion of the post-survey, you may choose to provide your email address to be entered into a raffle to win one of two \$25 Starbucks gift cards. Your email address will only be used by the principal investigator to randomly select two winners and to disperse the gift cards to the winners. It will not be linked to your survey responses, nor will it be distributed or used in any other manner. Participation in the raffle is optional.

Information collected about you will not be used or shared for future research studies.

The information that you provide in the study will be handled confidentially. However, there may be circumstances where this information must be released or shared as required by law. The University of Arizona Institutional Review Board may review the research records for monitoring purposes.

For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact the

Human Subjects Protection Program at 520-626-6721 or online at
<http://rgw.arizona.edu/compliance/human-subjects-protection-program>.

For questions, concerns, or complaints about the project, you may call:

Mallory Ketterer, BSN, RN
DNP-FNP Candidate
602-769-8604
Mkeller@email.arizona.edu

You agree to have your responses used for research purposes.

APPENDIX C:
RECRUITMENT MATERIAL (FACEBOOK POSTING/RECRUITMENT FLYER)



Families of Milk and Honey



Kelli Lehrling shared a link.

September 28 at 11:58 AM · 🌐



Monday, September 28, 2020 at 11:58 AM

Please see the attached flyer for an opportunity to participate in a short, educational project by Mallory Ketterer, candidate for Doctor of Nursing Practice at the University of Arizona College of Nursing and a former Milk and Honey mother. All participants will be entered to win one of two \$25 Starbucks gift cards! The surveys will be available until Sunday, October 11th at 1159 pm.

This project has been reviewed and approved by the University of Arizona IRB.

Please click on the link below or copy and paste it into your browser to participate:

<https://redcap.uahs.arizona.edu/surveys/?s=48PXJNK3P8>

If you have any questions or concerns about the content of the video, please do not hesitate to contact your Milk and Honey provider via telephone at 520-477-7752.

Thank you!

REDCAP.UAHS.ARIZONA.EDU

> Disclosure Statement



6

1 Comment



Like



Comment



Kelli Lehrling Author



THE UNIVERSITY OF ARIZONA

Participants needed for a Doctor of Nursing Practice Student Project!

My name is Mallory Ketterer and I am a Doctor of Nursing Practice (DNP) student at the University of Arizona. For my project, I am conducting a quality improvement project about education on prenatal anxiety and depression. This is an opportunity to learn about mental health during pregnancy and after birth.

If you choose to participate, you will be asked to complete a brief online questionnaire, watch a short video, and complete a post-survey questionnaire in just over 30 minutes to complete the survey and watch the video. The survey is completely confidential. This project has been approved by the University of Arizona Institutional Review Board and is in compliance with the laws and regulations that protect human subjects' privacy for participating in research studies.

Thank you for your consideration to participate. For questions or concerns, please contact Mallory Ketterer, RN, PhD at mketter@arizona.edu or via telephone at 520-769-6666

To be eligible, you must meet the following criteria:

- Member of the Families of Milk and Honey Facebook Group

Instructions: Please visit the following website to participate: <https://redcap.uahs.arizona.edu/surveys/?s=48PXJNK3P8>

Our commitment to this research was to provide you with a survey or video for you to watch at your own pace.

Like · Reply · 1w



Participants needed for a Doctor of Nursing Practice Student Project!

My name is Mallory Ketterer and I am a Doctor of Nursing Practice (DNP) student at the University of Arizona. For my project, I am conducting a quality improvement project about video education on perinatal anxiety and depression. This is an opportunity to learn about mental health during pregnancy and after birth.

If you choose to participate, you will be asked to complete a brief online questionnaire, watch a short video, and complete a post-survey questionnaire. It will take about 30 minutes to complete the surveys and watch the video. The surveys are completely confidential. This project has been approved by the University of Arizona Institution Review Board and is compliance with the rules and regulations that protect human subjects' privacy for participating in research studies.

Thank you for your consideration to participate. For questions or concerns, please contact Mallory Ketterer, BSN, RN at mlkeller@email.arizona.edu or via telephone at 602-769-8604

To be eligible, you must meet the following criteria:

- ◆ Member of the Families of Milk and Honey Facebook Group



Instructions:
Please visit the following website to participate:
<https://redcap.uahs.arizona.edu/surveys/?s=48PXJNK3P8>

Upon completion of the post-survey, you may provide your email to enter a raffle for one of two \$25 Starbucks gift cards!
(This is optional)

APPENDIX D:

EVALUATION INSTRUMENTS (PERINATAL ANXIETY AND DEPRESSION PRE-
SURVEY/ANXIETY AND DEPRESSION POST-SURVEY)

Perinatal Anxiety and Depression Pre-Survey:

Demographic Information:

Fill in the blank accordingly or circle the best answer for the questions below.

- 1) My age is: ____ years.
- 2) I identify as:
 - a. Hispanic
 - b. White
 - c. African American
 - d. Asian
 - e. Native American
 - f. Native Hawaiian/Pacific Islander
 - g. Multi-race, non-Hispanic
 - h. Do not wish to say
- 3) Are you pregnant? No Yes

If answered yes, is this your first baby? No Yes

How many weeks pregnant are you? (fill in the blank) ____ weeks
- 4) If answered no to question 3, have you given birth within the last year? No Yes

Do you have children? No Yes

Are you currently want to get pregnant? No Yes
- 5) Are you a partner of someone who is/was pregnant or has had a baby? No Yes
- 6) Have you ever received education about perinatal anxiety and/or depression? No Yes
- 7) If you are pregnant or have had a baby before, were you screened for anxiety and/or depression? If no, please skip question 8.

No Yes
- 8) If you were screened, when/where did it take place?
 - a. During a prenatal care clinic visit
 - b. In the hospital after giving birth
 - c. During a Postpartum clinic visit
 - d. All of the above
 - e. Other: _____

Please choose the best answer for each question.

- 1) I am aware of the importance of maternal mental health on mother and child health outcomes?
Strongly Disagree Disagree Undecided Agree Strongly Agree
- 2) A risk factor for developing anxiety or depression is: (check all that apply)
 - a. Being pregnant
 - b. Past history of anxiety and/or depression
 - c. Lack of support people
 - d. There are no risk factors
- 3) Symptoms of depression include: (check all that apply)
 - a. Feeling guilty
 - b. Doing activities that I enjoy
 - c. Feeling down or hopeless most of the time
 - d. Sleeping too much or too little
- 4) Symptoms of anxiety include nausea and shortness of breath.
True False
- 5) I know one activity I can try to help care for myself and my mental health.
Strongly Disagree Disagree Undecided Agree Strongly Agree
- 6) I know of one local place I can go to or contact if I need help.
Strongly Disagree Disagree Undecided Agree Strongly Agree
- 7) I am confident that I know how to get help if I feel depressed or anxious.
Strongly Disagree Disagree Undecided Agree Strongly Agree
- 8) If I feel that I am having anxiety or depression I will get help and talk with my partner/family/support system.
Strongly Disagree Disagree Undecided Agree Strongly Agree
- 9) If I feel that I am having symptoms of anxiety or depression, I will get help and discuss this with my healthcare provider.
Strongly Disagree Disagree Undecided Agree Strongly Agree

Anxiety and Depression Post-Survey:

Please choose the best answer for each question.

- 1) I am aware of the importance of maternal mental health on mother and child health outcomes?
Strongly Disagree Disagree Undecided Agree Strongly Agree
- 2) A risk factor for developing anxiety or depression is: (check all that apply)
 - a. Being pregnant
 - b. Past history of anxiety and/or depression
 - c. Lack of support people
 - d. There are no risk factors
- 3) Symptoms of depression include: (check all that apply)
 - a. Feeling guilty
 - b. Doing activities that I enjoy
 - c. Feeling down or hopeless most of the time
 - d. Sleeping too much or too little
- 4) Symptoms of anxiety include nausea and shortness of breath.
True False
- 5) I know one activity I can try to help care for myself and my mental health.
Strongly Disagree Disagree Undecided Agree Strongly Agree
- 6) I know of one local place I can go to or contact if I need help.
Strongly Disagree Disagree Undecided Agree Strongly Agree
- 7) I am confident that I know how to get help if I feel depressed or anxious.
Strongly Disagree Disagree Undecided Agree Strongly Agree
- 8) If I feel that I am having anxiety or depression I will get help and talk with my partner/family/support system.
Strongly Disagree Disagree Undecided Agree Strongly Agree
- 9) If I feel that I am having symptoms of anxiety or depression, I will get help and discuss this with my healthcare provider.
Strongly Disagree Disagree Undecided Agree Strongly Agree

Video Format

1) Was the video easy to follow?

Yes No

2) Was the video interesting?

Yes No

3) Would you rather learn about the content with written material?

Yes No

APPENDIX E:
PARTICIPANT MATERIAL (VIDEO SCRIPT)

Video Script

Perinatal Anxiety and Depression

What is perinatal anxiety and depression?

Pregnancy and having a baby is an exciting major life change for you and your family. Your body is undergoing many physical and hormone changes that can affect your mind and your mental health. One in five women will experience distressing symptoms and struggle with their mental health at some point during the perinatal time period. “Perinatal” means beginning when you become pregnant to one year after you give birth. “Perinatal mood disorders” include a variety of mental illnesses but the most common ones are anxiety and/or depression.

Risk Factors

Women are two times more likely than men to develop mental health disorders at some point in their life. Typical feelings of stress, fear, and uncertainty arise as you undergo personal health changes and prepare for your new baby. These feelings plus the changes that are occurring in your body to develop and support your growing baby, make you more at risk for feeling or thinking differently.

Midwife: Once you decide to be a parent that’s it you’re going to be a parent in some capacity or another so I think it’s a huge life change it shouldn’t be anything less it’s exciting and scary it’s wonderful it’s terrifying it’s just an incredible, incredible shift a seismic shift in almost everyone’s life particularly when they become a parent for the first time. So therefore, at times to feel sad anxious worried tearful ecstatic confused ambivalent is entirely normal and to be expected. Having a previous mental health disorder history is the major risk factor for developing anxiety and/or depression during pregnancy or postpartum. “Postpartum” is the time

after you give birth to your baby. Other risk factors include drinking alcohol or smoking cigarettes, not having a social support person or group, and money stressors. Having a difficult or traumatic pregnancy or birth experience and medical problems can also increase your risk for anxiety or depression. Just because these risk factors are present, does not mean that you will definitely experience symptoms. Symptoms of anxiety and depression can happen to anyone no matter your cultural background, resources, or environments. Most importantly, know that if you find yourself experiencing symptoms, you did not do anything to cause it and it is not your fault.

Signs and Symptoms

The pregnancy process and the excitement of having a new baby can bring upon “normal” feelings of worry, nervousness, and even sadness. The “baby blues” is a term that you may have heard about. This refers to increased “moodiness”, feeling “down”, crying, and feeling overwhelmed which may occur within the first couple of days after giving birth. The “baby blues” affects the majority (about 85%) of women and usually goes away within two weeks. Perinatal anxiety and depression are different as they can arise at any point during your motherhood journey. They can happen separately or together at the same time.

Mother: “I became pregnant with my daughter when – let’s see – March of 2018 and I had a pretty normal pregnancy and I would say until about the end when I thought it was just like regular hormonal issues – but now looking back it was like pregnancy rage. Which is a form or a sign that things aren’t really right”

Anxiety symptoms include a feeling that something bad is going to occur, constant worry and feeling of unease. Anxiety can also be physical symptoms such as nausea, dizziness, and feeling like you cannot catch your breath. You may also feel anxious because of your uncertainty about

being a mom. As a new parent there is often lots of uncertainty, so to feel some anxiety is very common.

Depression symptoms are a loss of interest in your baby or previous activities you used to enjoy doing, feelings of hopelessness or guilt, sadness or feeling miserable. Similar to anxiety, signs of depression can include not wanting to eat or you have trouble sleeping. With both disorders, you may have upsetting thoughts about your baby or harm to yourself.

Mother: I was just kind of flying off the handle, getting mad at my husband about things and it was just like not a normal type of anger. And then after the birth of my daughter I was on cloud nine. I was so like happy and in love with her but I had – I was like almost crying – which is what I felt like – which I know no other moms can understand and relate to but there's two things happening. I like couldn't physically like calm myself down. I was like always wanting to like clean and do stuff that I didn't allow myself to heal. And then also the baby blues never stopped so I was like all over the place from being like super happy and, you know, excited, and then like, you know, crying and crying all the time so the baby blues didn't stop. I mean the tears didn't stop and so that was a really big sign for me. I chalked it up to just being a new mom. I didn't realize that things weren't right. In addition to, you know, the crying, I also couldn't sleep. My mind like physically would not shut off, even though I knew that I needed to get sleep but I couldn't physically calm down. I had that rage that I was talking about that I had in my pregnancy also extended into my post-partum where I was getting really really mad at my husband. To the point where I didn't get very physical with him but like at night I shoved him out of the way trying to go and get my daughter. And that just is like not typical behavior for me. And again, I just thought I was just tired and was chalking it up to being a new mom. I think the

scariest part of it was the intrusive thoughts that I had. Again, I was fully in love with my daughter so I never thought that what I was experiencing was postpartum depression anxiety. I never – I always thought that that was like when moms had like a disconnect with their baby but that's not the case. And so I couldn't even like pick up the knife without having like these flashing thoughts of like of like me doing something really horrible to my daughter. Or like when we would take a bath with her, I would have horrible images of like me doing something really bad to her. And there's a lot of shame that's associated with that.

How Do I Know When My Symptoms Are Not Normal?

You may be thinking to yourself: well how do I know if I am experiencing “normal” symptoms or have perinatal anxiety and depression? Oftentimes, it can be difficult to determine what changes are expected or “normal” levels of psychological changes versus those that can become dangerous to you and your baby. Anxiety and depression disorder symptoms are different than typical feelings of worry as they are *persistent* and negatively impact you being able to function from day to day. The thoughts and emotions confuse your brain and may not let you think clearly. You might find that you are unable to take care of yourself and are constantly worrying about the baby or your life even when they are okay. Although rare, some women can develop very severe symptoms of mood disturbance in which they begin to have hallucinations- seeing things that are not real, and visions of possibly harming the baby or herself. This is called “postpartum psychosis” and it usually occurs two weeks after delivery.

The connection between maternal anxiety and depression symptoms during pregnancy and postpartum experiences and outcomes has been extensively studied in research. Early recognition and management of anxiety and depression leads to less medically-complicated birth

experiences, stronger mother-infant bonding, increased breastfeeding, enhanced family relationships, and positive development in the child. Experiencing anxiety and/or depression during pregnancy or after birth can be terrifying and make you feel lonely; however, all of these symptoms *are* treatable. If you just generally do not feel like “yourself” and feel that something is just not right, it is important to discuss this with your family and seek help from a healthcare professional.

Midwife: “I encourage you then when if you are feeling that way sure if you feel like your life partner is the best person to talk to you first then please do that however often someone outside of that parent life partner circle may be the best person to tell her that could be yours your nurse midwife your nurse practitioner your obstetrician and they will know if what you are saying is authentic and real, we will listen. I think particularly for mothers who are struggling postpartum they can feel that their struggles are a terrible secret but they can’t tell anyone and they suffer needlessly and sometimes tragically because they feel they can’t tell someone. So if you feel something and it’s persistent and causing you some very significant emotional stress distress tell someone. I would also suggest to the new parent that you be frank with your provider and when they say hey how are you doing and of course it’s kind of a very American culture thing to say fine, it’s OK to say medium, or not so good or to burst into tears and share you’re authentic, your authentic self and what you’re struggling with.”

Mother: I went back to work and that was horrible because I wasn’t able to perform because I wasn’t sleeping. Added a lot of stress to me so I ended up quitting my job and I thought that would make things get better. So really my healing journey was very prolonged because I didn’t know – there was like no knowledge or education for me to understand what was really going on.

And there was a little bit of relief after I didn't have to go back to work but then I still wasn't feeling right. And then I quickly isolated myself – I wasn't going to my Mommy Group, I didn't want to hang out with my friends, I stopped like washing and brushing my hair – I would have like knots in my hair. I was just like I wasn't taking care of myself and I was just like very sick in my mind but I presented so nicely so nobody knew what was going on. Until finally I told my husband, I broke down, like – I'm not feeling good – I need to go to therapy and I need to start to like figure this out and it wasn't until my therapist handed me the book *What I Didn't Expect* and I laughed at her because I was like I don't have postpartum depression. What are you talking about? And then as I started to read the book, every single thing that the book talked about – it like hit me in the chest because I was like WOW – that's what this is. I have post-partum depression. And so after swallowing that big pill and then talking to other moms, I really quickly found out that I wasn't alone and so many other moms experienced this but they didn't want to talk about it. And so I continued to go to therapy and that kind of is like the first really big step in my healing journey was like speaking up to my husband, going to therapy and also talking to other moms and so that's what I encourage other moms to do.”

Treatment

A common belief held by our society is that pregnancy and having a baby is a time of *only* happy feelings. In today's world, women are faced with the expectations that they “have it all together” and they must achieve perfection when it comes to motherhood. You may feel scared to admit your thoughts or feelings or say them out loud to others for fear that you will be judged, viewed differently, or seen as a “bad” mother. These are not true! Perinatal anxiety and depression are *real* medical conditions that are common among many women and greatly impact your overall

health. A variety of treatment options are available to reduce and eliminate symptoms. Treatment can consist of talking about it with someone during counseling or therapy. A counselor or therapist is a person who is very knowledgeable about mental health diseases and can work with you to identify ways to relieve your symptoms. Other treatments include attending support groups and/or taking medications.

Mother: I think, like I wish I would have said something earlier, it definitely is like a huge piece – piece of my journey and things that I like to share with new moms like your partner is there for you and they can only help you if you are very honest with them about how you feel. And they might not get it at first and that’s okay because there’s a lot of education that needs to go into educating parents. But the sooner that you can – and the more open that you can be – the easier it will be for him or her to help you – and you guys to kind of like to tackle this together because having a supportive partner is a huge part of your healing process and trying to make it all better.”

Midwife: “At the facility where I work we actually have in-house behavioral health we are very lucky to have that so I can have someone come down and talk to the woman, the parent, immediately at the time of the appointment. I tell my patients, asking for help is a win, not a fail.”

Ways to Prevent

There are no definitive ways to prevent anxiety and depression but there are some simple lifestyle changes and self-care habits that can help your mental health. *Nutrition* is important as eating a diet full of vitamins, fruits, and vegetables and reducing caffeine intake can reduce symptoms of anxiety. Participating in *exercise* can increase energy levels and overall mood.

Getting the right amount of *sleep* and rest can increase concentration and reduce depressive symptoms. This, of course, is challenging when caring for a new baby, but you can do it by accepting/asking for help and napping when you can. Self-care is doing things that help your body and mind feel better. *Self-care* includes setting aside the time to care for yourself and do something *you* enjoy. This could include reading a book, taking a bath, listening to your favorite music, and doing yoga. *Breathing exercises and mindfulness* activities can decrease stress and promote relaxation. Mindfulness is taking time to focus on your thoughts and feelings. You can use apps on your phone such as Headspace or the Calm app to do these activities. Recognizing and being open and accepting help from your significant other, family, and friends is important to assist you through pregnancy and beyond. *Connecting with other mothers* in support groups is a way to discuss feelings and emotions with others who may have similar experiences to you.

Mother: “Once I got through therapy and once I really started to give – to speak up and ask for what I needed – that’s when I could put – see a light at the end of the tunnel. Just going to therapy and I think the biggest piece is allowing – getting yourself out of that negative mood that plays in your mind. When you’re experiencing postpartum depression or anxiety your thoughts are really consumed by a lot of different things. Like – I’m tired, I’m not good enough, why is this so hard, it’s very like all consuming and so once you can kind of – for me it was really like the mindfulness and catching myself in that loop and doing things for myself. Also, I talked a lot in my book about self-care and taking care, and doing things for yourself. And filling your bucket – that’s really what it is because when you become a new mom some people, especially like myself, I became all consumed in taking care of her but I wasn’t doing things for myself. I didn’t even have like a – my schedule revolved around feeding her, taking care of her and I

didn't realize I had to schedule time for myself. I had to go and take like three-hour breaks away to be able to come home and feel good for my husband and for my daughter. So I think that self-care piece is really important and what I like to do for myself – I just have to have alone time period. My husband doesn't really get that. But I need to just be able to be quiet and center myself and do things for myself that make me happy. And that could be, like yesterday I went to the park and sat by a tree in silence. Like that. That's all I needed to kind of bring things back home and I came back and I felt so much better because I was able to recharge and give myself the break that I deserve. For me, personally, the kind of support that I got was I – there's a mom group at the birth center that I gave birth to and I just started talking to them and then posting on their Facebook page and sharing how I was feeling and I got flooded with comments and then also people who didn't want to share on Facebook – like – hey, I'm feeling the same way these are some things that helped me. So, once you kind of accept that you have postpartum depression and anxiety and start talking about it, you are going to be amazed with how much support you can get and how like you are not alone in this.”

Local Resources

There are many international and local resources here in Tucson, AZ that are available to you on the internet, telephone, or in group settings. These resources can provide further educational information, help connect you with mental health professionals or other mothers, and provide you support.

Postpartum Support International is an organization that you can visit their online website to learn more about mental health disorders during pregnancy or after birth. You, a family member,

or a friend can call or text their free support hotline and speak to someone about how you are feeling. They can also help you find local resources in your area.

Tucson Postpartum Depression Coalition provides education and support groups. You can call to speak to someone about finding resources or call the crisis response line for emergencies such as having suicidal thoughts. The crisis response phone line is open all day, every day.

Heartsounds is an organization in Tucson that provides supportive care for you and your baby at your own home.

Postpartum Progress is an online resource center and blog that includes a variety of education and stories from mothers who have experienced different mental health issues during pregnancy or after birth.

Last but not least, **Milk and Honey** Breastfeeding and Postpartum Support Center is available to assist and support you through the pregnancy, postpartum, and beyond. Their lactation consultants and other providers provide individual sessions or you can attend support group sessions with other mothers and families.

Conclusion

Perinatal anxiety and depression is so common during pregnancy or after birth. Remember, anxiety is being fearful, feeling nervous, and worrying all of the time. Depression is continuously feeling sad, irritable, and having feelings of worthlessness. These are *different* from the usual feelings that arise before life changes or events and occasional feelings of sadness or self-doubt (PSI, 2020). These symptoms are profound enough to impact your ability to complete activities and can affect your environment and relationships (PSI, 2020). Anxiety and depression come in all shapes and forms. Early recognition is important to feel better and get help.

Mother: I think that when you are in your pregnancy and as you become a new mom – I just really encourage you guys to look up and read into the warning signs of postpartum depression and anxiety. I think we all love to work on the nursery and the feeding schedule and sleep schedule. But understand that as a mom you're – it's all about the baby yes, but you also have to take care of yourself and know what those warning signs are so that you and your husband or even your friends can step in and say – hey I've noticed that you are not feeling yourself or maybe if you're self-isolating that these are warning signs. So, I would say for partners of a pregnant mom – I would say just try to be involved in their care as much as you can. Educating yourself is so important to speak up and don't be afraid and don't be ashamed. There's so many moms that experience this and you're not alone and there is support out there – so just keep an eye on yourself and talk to your partner and talk to your provider and help is – you'll be good. Just speak up and be honest.”

We find ourselves in a time period of increased uncertainty and unease due to the recent COVID-19 pandemic. This may not be how you envisioned your pregnancy and motherhood journey to begin, but know that you are not alone. Talk to your family, lactation consultant, or healthcare provider today and pay attention to your mental health. You *deserve* to express how you are feeling. You *deserve* to obtain professional help and support. You *deserve* to take time to care for your individual health and well-being. Remember, it is okay to not be okay and there are support resources and guidance available to help you. You got this, mama!

Credits:

Narrator: Mallory Ketterer, BSN, RN, Doctor of Nursing Practice Student, Family Nurse Practitioner Specialty

Mother: Blake Nolan

Midwife: Eileen Devlin, Licensed Master Social Worker (LMSW), Certified Nurse Midwife (CNM)

Film creator and editor: Warren Cole

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- Link to video: <https://vimeo.com/459808313/3196df508e>

APPENDIX F:
PROJECT TIMELINE

Completion Date	Planning	Pre-Implementation	Implementation	Evaluation
5/1/2020	Submit proposal to project chair			
5/3/2020	Send video script content to experts	Conduct and record interview with mother via Zoom		
5/5/2020	Meet with video developers			
5/10/2020 – 5/22/2020	Identify 3 rd chair member	-Conduct interview with midwife -Transcribe interviews and add to script -Edit and finalize video script		
5/22/2020 – 5/31/2020		Solidify site. Obtain authorization letter.		
6/1/2020 – 6/6/2020		Develop and write methodology		
6/6/2020		Send new proposal/methodology to committee chair		
6/13/2020		Obtain proposal approval from chair		
		Schedule Proposal Defense Presentation with committee members		
7/9/2020		Proposal Defense Presentation		
7/9/2020 – 7/21/2020	Make committee revisions to proposal			
7/21/2020	Submit to College of Nursing Research Committee			
7/31/2020		Make Revisions from CON Research Committee		
8/24/2020		Obtain IRB approval		
8/24/2020 – 9/25/2020		Film and Edit Video		
9/28/2020 – 10/11/2020			Implement Collect Data	
10/11/2020 – 10/25/2020				Analyze Data
10/25/2020			Draw 2 raffle winners of gift card	
11/9/2020 – 11/25/ 2020				Project Summary Meeting with Center Owner Final Defense Presentation of Project Results

APPENDIX G:
LITERATURE REVIEW GRID

Project Question: *Will the delivery of an educational video about perinatal anxiety and depression increase knowledge and awareness of mental health and equip mothers with the self-confidence to seek help, if needed?*

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support for and or link to project
Al Owaifeer et al., 2018	The effect of a short animated educational video on knowledge among glaucoma patients	Pre-Post Quantitative intervention study	<p>Mean pre-intervention knowledge score: 6 out of 17</p> <p>Mean post-intervention score: 11.1 ($P \leq 0.001$)</p> <p>A short video was effective in increasing knowledge about the disease Glaucoma</p>	<p>Similar design to proposed project</p> <p>Example of video education used in another clinical setting</p>
Committee on Obstetrics Practice, 2018	Opinion No. 757 Summary: Screening for perinatal depression	Systematic Review; Practice Summary	<p>Recommends: all obstetrician–gynecologists and other obstetric care providers complete a full assessment of mood and emotional well-being (including screening for postpartum depression and anxiety with a validated instrument) during the comprehensive postpartum visit for each patient.</p> <p>-If a patient is screened for depression and anxiety during pregnancy, additional screening should then occur during the comprehensive postpartum visit.</p>	<p>Screening alone is important; however, referral and actual utilization of treatment is warranted</p> <p>Education may fill the gap or reinforce proper knowledge of mood disorders during pregnancy and ensure follow up care</p>
Hirsch, Fingerhut, & Allison, 2017	The Prenatal Distress Measure: Adaptation of the Postpartum Distress Measure	Qualitative Study (Study did not mention specific design)	Determined whether the Postpartum Distress Measure (PDM) could be used	Supports the need for screening tools of anxiety

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support for and or link to project
	for a Prenatal Sample	199 pregnant women completed online surveys containing the various postpartum anxiety/depression scales	<p>effectively during pregnancy to assess for mood alterations or anxiety</p> <p>Scales Examined: -Edinburgh Postnatal Depression Scale (EPDS) -Mood and Anxiety Symptom Questionnaire -Prenatal Distress Measure (Pre-DM) -Relationship Assessment Scale</p> <p>Pre-DM showed the ability to identify similar symptoms during pregnancy and postpartum; showed good reliability and validity</p> <p>-The PDM may be able to be used during pregnancy not just postpartum</p> <p>-Standard screening measures already used in clinic</p>	<p>and depression for antepartum period</p> <p>Reviews various screening tools already being used to identify anxiety and depression in postpartum</p> <p>Supports importance of implementing tool early in antepartum to prevent/recognize symptoms postpartum</p> <p>Comparison of screening vs. education</p>
Kendig et al, 2017	Consensus Bundle on Maternal Mental Health: Perinatal Depression and Anxiety	Systematic Review Protocol/Practice Bundle Consensus Bundle Prevention Task Force by the American College of	Safety Bundle Included: 1) Readiness 2) Recognition and Prevention 3) Response 4) Reporting and Systems Learning	<p>Identifies several screening tools used for assessment: EPDS, Postpartum Depression Screening Scale</p> <p>Expands on screening and how practitioners can guide treatment</p>

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support for and or link to project
		Obstetricians and Gynecologists		<p>Verifies there is not <i>one</i> optimal screening tool</p> <p>Solidifies importance of screening measures</p> <p>States importance for protocols regarding screening initiatives</p> <p>Example of a protocol implemented by practitioners</p>
Kingston et al., 2015	Pregnant Women's Perceptions of Harms and Benefits of Mental Health Screening	Cross-sectional multi-site study	<p>Surveyed women to analyze their perceptions of the benefits and harms of mental health screening during pregnancy</p> <p>High benefit, low harm</p> <p>Harm was perceived as the embarrassment felt to disclose answers</p> <p>Appreciative of mental health assessment</p> <p>Patients preferred to address their mental health individually</p>	<p>Women are receptive to screening, therefore they may be receptive for education</p> <p>Although patients had positive perceptions about screening, there is still a stigma and reluctance to report symptoms due to feelings of shame and embarrassment</p> <p>Therefore, screening may not be enough.</p>
Kwan et al., 2015	The Edinburgh Postnatal Depression Scale as a Measure for Antenatal Dysphoria	Cross-Sectional Study	EPDS unidimensional, however, is able to detect depression and anxiety and	Example of a screening tool that is used during and after pregnancy

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support for and or link to project
			<p>anhedonia symptoms during pregnancy</p> <p>EPDS can be used to screen for other mood dysfunction such as anxiety, anhedonia</p> <p>Unable to detect general overall distress</p>	<p>Screening does have limitations and variations</p>
Lenczowski et al., 2018	Video Education to Improve Recognition of Common Benign and Malignant Cutaneous Lesions and Skin Cancer Prevention in the Public	Quantitative post- test design	<p>2-minute video in an outpatient dermatology clinical environment was the preferred method compared to written materials in the detection of skin carcinomas</p> <p>Participants were asked on a post-quiz the symptoms, prevention, identify lesions. The right answers were calculated to a total score of 6</p> <p>90% recall about self-skin assessment and prevention information on post-tests</p>	<p>A short video effectively increased knowledge scores of skin cancer</p> <p>Example of a study with similar design in a different patient population, could be effective in pregnancy population</p> <p>Successfully implemented in outpatient care setting</p>
Matthey & Della Vedova, 2018	A Comparison of Two Measures to Screen for Emotional Health Difficulties During Pregnancy	<p>Cross-sectional study</p> <p>Screenings administered during 3rd trimester perinatal clinic appointments</p>	<p>-Compared the Matthey Generic Mood Questionnaire (MGMQ) with the Edinburg Postnatal Depression Scale (EPDS) for detecting mental health in pregnancy</p>	<p>-Screening measures can be used effectively in pregnancy</p> <p>-Screening tools questionnaires missed some symptoms of anxiety</p>

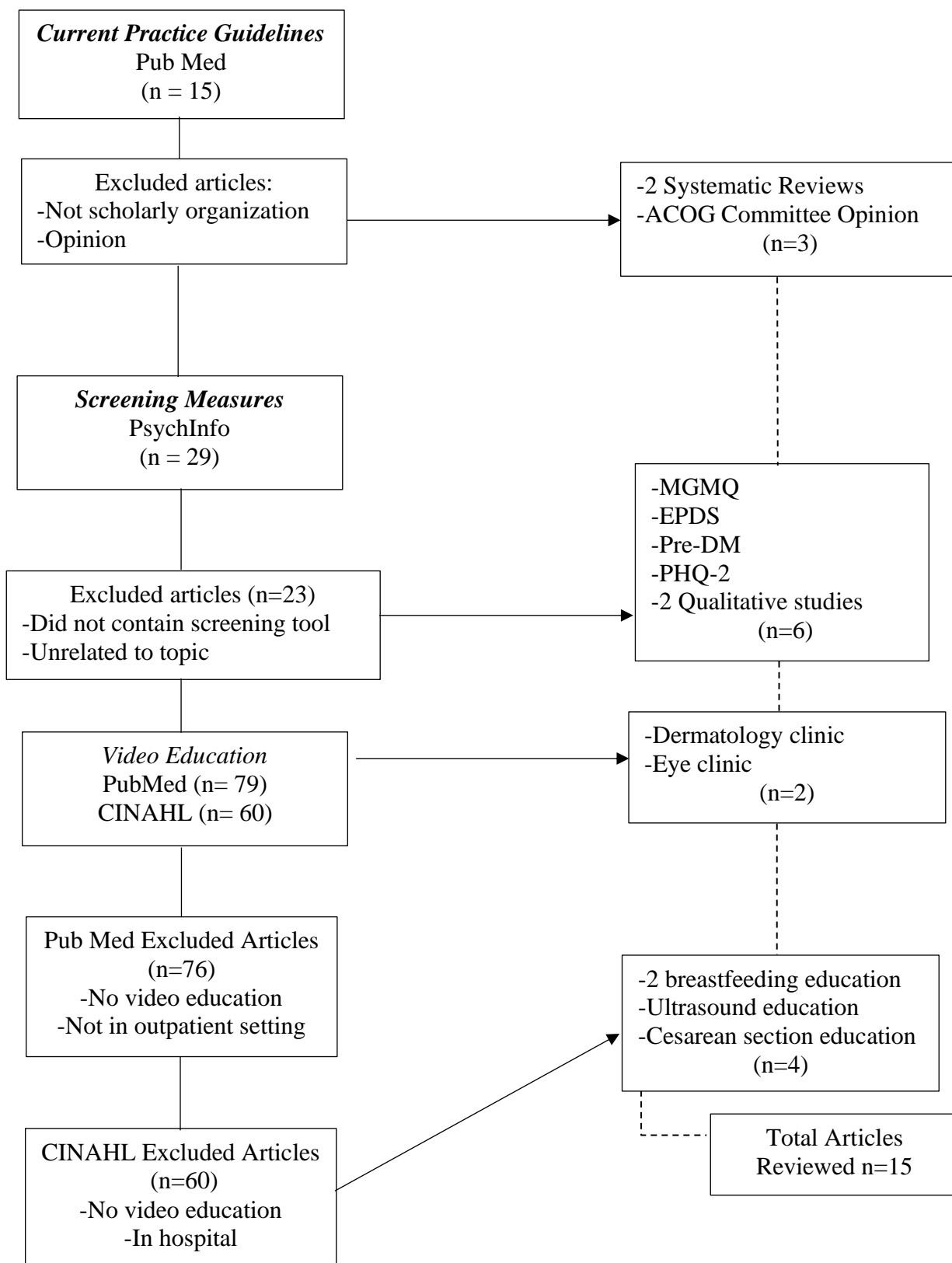
Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support for and or link to project
			<p>-MGMQ is a briefer survey; unclear whether it was created specifically for antepartum</p> <p>-EPDS was less able to detect women who were distressed or felt that they had mood alterations than the MGMQ</p> <p>-EPDS missed reports of anxiety</p> <p>-MGMQ identified a broader spectrum of emotions than EPDS</p> <p>-Good comparison of the EPDS with a less well-known scale, would need to research the MGMQ more to determine if its applicable screening tool for antepartum</p>	<p>-Addressed actual screening of mood disorders/symptoms during pregnancy</p>
Mulla et al., 2018	Improving Patient Knowledge of Aneuploidy Testing Using an Educational Video: A Randomized Controlled Trial	Randomized Control Trial	<p>Evaluated the effectiveness of an educational video on aneuploidy testing before an ultrasound</p> <p>Knowledge scores increased (+2.0 (scale 1.0–5.0); p=0.1]</p> <p>overall comprehension increased (p<0.001)</p>	<p>Video education in pregnant women helped to increase knowledge about fetal ultrasound</p> <p>Represents success of video education in pregnant population</p>

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support for and or link to project
Nagle & Farrelly, 2018	Women's Views and Experiences of Having Their Mental Health Needs Considered in the Perinatal Period	Qualitative Study Semi-Structured Interviews Small sample size (n=8)	3 Themes: 1) <i>Experience of Mental Distress</i> -Emotional -Assumption of supposed to be happy 2) <i>Telling and Disclosing</i> -Barriers to talking with healthcare provider: shame/judgment, lack of continuity of care, only asked about mental health if they knew there was a history of mental health issues, focus on medical needs at discharge 3) <i>Experience of Obtaining Help</i> -If reported, help was provided; difficulty finding someone to contact for help	-Women felt that staff did not have time to adequately assess -Women felt that screening tools were just “tick boxes” and didn’t get assessed -Screening tools identified women at risk for mental health disorders -Need for education for practitioners on perinatal mental health issues -Need for mental health education in antenatal period (i.e. childbirth classes)
Noben et al., 2019	A Virtual Reality Video to Improve Information Provision and Reduce Anxiety Before Cesarean Delivery: Randomized Controlled Trial	Randomized Control Trial	Implemented a virtual reality video prior to patients having planned cesarean sections to determine anxiety reduction Evaluated pre-operative written materials vs video education Participants felt better prepared for c-section	Using technology can increase knowledge about topics during pregnancy; positively inform and prepare patients for procedure Similar setting- in the outpatient prenatal clinic

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support for and or link to project
O'Sullivan, McCafferty, & Gilia, 2019	Online Video Instruction on Hand Expression of Colostrum in Pregnancy is an Effective Educational Tool	Pre- and post-test study	Video-based education to teach pregnant women about hand expression Scores improved by 4 points (3.05 ± 1.70 correct out of 7 to 6.32 ± 0.76; p < 0.001) Confidence scores increased P <0.001	Used video and online questionnaires for pregnancy population, similar design Video is effective teaching tool
Pitts, Faucher, & Spencer, 2015	Incorporating Breastfeeding Education into Prenatal Care	Quantitative post-test study	Distributed breastfeeding education video three times during prenatal care Evaluated breastfeeding rates postpartum 67% of participants stated the video encouraged them to pursue breastfeeding postpartum >70% actually breastfed post birth	Video education during prenatal care can impact outcomes postpartum
US Preventive Services Task Force	Screening for depression in adults: US Preventive Services Task Force recommendation statement	Systematic Review; universal screening recommendations based on evidence	Screening for depression should occur in all adults, including women during both pregnancy and postpartum	Specifically states that more than just screening is need, validates need for the project
Vlenterie et al., 2017	Epidemiological Evaluation of the Patient Health Questionnaire-2 in a Pregnant Population.	Prospective cohort study	PHQ-2 was administered to pregnant women three times throughout the pregnancy	PHQ-2 is short screening tool used in pregnant patients

Pub. Year Author's Last Name	Title of Publication	Type of Study	Main Outcomes or Findings	Support for and or link to project
			Sensitivity= 69-84% Specificity= 79-84% Positive Predictive Values= 19-26% Negative Predictive Values= 96-99% Study reported many false-positives with PHQ	Shows inefficiencies and unreliability of tool Supports need for other interventions besides screening

APPENDIX H:
FLOW DIAGRAM OF LITERATURE SEARCH



APPENDIX I:

OTHER DOCUMENTS (SUMMARY TABLE OF RESULTS BY PARTICIPANT/MEDIA
RELEASE FORMS/PROJECT POSTER)

Summary Table of Results by Participant

	Awareness			Knowledge															Confidence								
	Q1			Q2			Q3			Q4			Q5			Q6			Q7			Q8			Q9		
	Pre	Post	Δ	Pre	Post	Δ	Pre	Post	Δ	Pre	Post	Δ	Pre	Post	Δ	Pre	Post	Δ	Pre	Post	Δ	Pre	Post	Δ	Pre	Post	Δ
1	SA	SA	nc	C	C	nc	C	C	nc	C	C	nc	A	SA	+	D	D	nc	A	A	nc	A	A	nc	A	A	nc
2	A	SA	+	I	I	nc	C	C	nc	C	C	nc	SA	SA	nc	SA	SA	nc	SA	SA	nc	SA	SA	nc	SA	SA	nc
3	SA	SA	nc	C	C	nc	C	C	nc	C	C	nc	SA	SA	nc	U	U	nc	A	U	-	A	A	nc	A	SA	+
4	A	SA	+	C	C	nc	C	C	nc	C	C	nc	SA	SA	nc	SA	SA	nc	SA	SA	nc	SA	SA	nc	SA	SA	nc
5	SA	SA	-	C	C	nc	C	C	nc	C	C	nc	SA	SA	nc	SA	SA	nc	SA	SA	nc	A	SA	+	A	SA	+
6	D	SA	+	I	C	+	C	I	-	C	C	nc	A	A	nc	A	A	nc	SD	A	+	U	A	+	A	A	nc
7	D	A	+	C	C	nc	I	I	nc	C	C	nc	D	D	nc	SD	D	+	D	A	+	SD	U	+	D	U	+
8	SD	SD	-	C	C	nc	I	I	nc	C	C	nc	SD	SD	nc	SD	SD	nc	SD	SD	nc	SD	SD	nc	SD	SD	nc

Δ= change; + = increase, - = decrease; A= agree, C=correct; D=disagree, I= incorrect, NC= no change, SA= strongly agree, SD= strongly disagree; U= undecided

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Utilizing Video Education to Increase Knowledge and Awareness of Perinatal Anxiety and Depression

Mallory Ketterer, BSN, RN Renee Gregg, DNP, FNP-C Lisa Kiser, DNP, CNM, WHNP-BC Timian Godfrey, DNP, APRN, FNP-BC, CPH

ABSTRACT

Purpose: To increase patient awareness and knowledge of perinatal anxiety and depression through video education. Encourage women and their families to discuss maternal mental health and seek help if needed.

Background: Pregnancy and postpartum increases a women's vulnerability for developing a mood disorder. Mood disorders impact mothers' and family's health if untreated. Societal stigma of mental health results in underreporting.

Methods: Clients from a local breastfeeding and postpartum support center were recruited via Facebook to watch an educational video on perinatal anxiety and depression and complete pre and post surveys

Results: Eight participants completed the pre survey, video, and post survey. Increases in agreement responses after the intervention was observed in seven out of the eight participants.

Conclusions: The video education was effective in increasing some knowledge of perinatal anxiety and depression and confidence to seek help.



PURPOSE

Increase patient awareness and knowledge of maternal mental health disorders that can occur during pregnancy and postpartum, specifically anxiety and depression, in order to promote positive health outcomes for the mother and child

Project Question

Will the delivery of an educational video about perinatal anxiety and depression increase knowledge and awareness of mental health and equip mothers with the self-confidence to seek help, if needed?

BACKGROUND/SIGNIFICANCE

- Anxiety and depression are the number one medical complication during pregnancy and after childbearing
- If symptoms are left untreated, the physical and psychological health outcomes of the mother, baby, and family are compromised
- Half of women suffering from postpartum depression go undetected during clinic visits
- Despite screening by healthcare providers, perinatal mood disorders are often underreported by women due to the lack of open acknowledgement of symptoms and the social or cultural stigmas of mental health
- Video technology is effective in providing education and promoting optimal health and well-being in other patient populations

METHODS

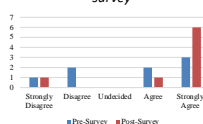
- Design: Descriptive, quantitative approach
- Sample: N=8
- Instruments: Self-reported data utilizing a pre-and post-survey questionnaire

RESULTS

- 8 participants completed the pre-survey, video, and post-survey

Awareness

Awareness of maternal mental health increased as 50% (n=4) of participants increased their measure of agreement on the post-survey



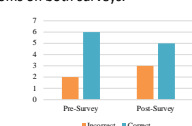
Knowledge

Risk Factors: 6/8 participants identified the correct risk factors on both surveys. One participant improved their score post intervention.



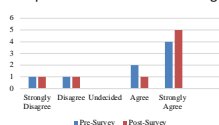
Symptoms

Depression: The majority of participants (n=6) identified the correct symptoms on both surveys.



Anxiety: All participants identified the correct symptoms

Activity: One participant increased their knowledge.



Local Resource: No new knowledge was gained

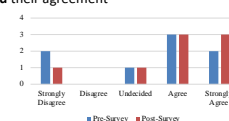


Confidence

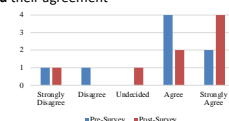
How to get help: Two participants increased confidence



Seek help from partner/family/support: Two participants increased their agreement

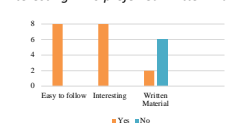


Seek help from healthcare provider: Three participants increased their agreement



Video Format

All participants (n=8) stated the video was easy to follow and interesting. Two preferred written material.



DISCUSSION/CONCLUSIONS

- Individual participants did increase their individual awareness, knowledge, and confidence levels regarding maternal mental health.
- Video education about perinatal anxiety and depression is a unique way to increase awareness and knowledge and encourage individuals to pursue help and support from others

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