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An Educational Intervention Addressing Postpartum Depression and Help-Seeking Behavior: A Pilot Study

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This dissertation, AN EDUCATIONAL INTERVENTION ADDRESSING POSTPARTUM DEPRESSION AND HELP-SEEKING BEHAVIOR: A PILOT STUDY by BRITTANY GRISSETTE was prepared under the direction of the candidate's dissertation committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Nursing in the Byrdine F. Lewis College of Nursing and Health Professions, Georgia State University.

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ABSTRACT

AN EDUCATIONAL INTERVENTION ADDRESSING POSTPARTUM DEPRESSION: A PILOT STUDY

by

BRITTANY GRISSETTE

Postpartum depression (PPD) affects one in seven women; however, only 15% of women with PPD seek psychological help. Perceived stigma and lack of knowledge regarding PPD have been identified as barriers that prevent women from seeking help. The purpose of this study was to evaluate a theory-based, antenatal educational intervention that addresses barriers to help-seeking behavior for the treatment of PPD. The goal of the proposed intervention was to enhance pregnant women's willingness to seek psychological help should they develop PPD by decreasing stigma and increasing knowledge.

A single group, pre-test post-test, quasi-experimental, pilot study was conducted with a non-randomized sample of 24 pregnant women. Participants were predominately Caucasian (62.5%). The mean age of the group was 26.54 years (*SD* = 4.60) and ages ranged from 19 to 35. The mean gravida of the participants was 1.79 (*SD*= 1.06) and the mean para was .88 (*SD* = .992) with the number of children ranging from 0 to 3. More than 60% of the participants were married (50%) or partnered (12.5%) and denied a history of mental illness (62.5%).

Findings from the Inventory of Attitudes Towards Seeking Mental Health Services (IASMHS) and the Beliefs About Psychological Services **(**BAPS)

showed that participants reported less stigmatizing views towards seeking psychological help for PPD after the educational intervention as compared to before the intervention (p = < .001; p = .003). Participants also reported increased willingness to seek psychological help for PPD following the intervention (p = < .001; p = .003). Additionally, findings based on the Knowledge of Postpartum Depression (KPPD) showed a significant increase in knowledge of PPD after the intervention (p = .001).

Future research should focus on further development of the educational intervention to include detailed information regarding how to seek help and the addition of significant others as participants. Providing women with more help-seeking information and including their significant other in the intervention may be instrumental for further increasing women's willingness to seek help while decreasing their significant other's stigmatizing views regarding PPD and help-seeking. If significant others understand PPD and the maternal benefits of seeking help, they may serve as a facilitator to women's help-seeking behavior.

TITLE PAGE

AN EDUCATIONAL INTERVENTION ADDRESSING POSTPARTUM BEHAVIOR AND HELP-SEEKING BEHAVIOR: A PILOT STUDY

By

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A DISSERTATION

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2022

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“None of us, acting alone, can achieve success.” – Nelson Mandela

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LIST OF ABBREVIATIONS

BAPS	Beliefs About Psychological Services
HBM	Health Belief Model
IASMHS	Inventory of Attitudes Towards Seeking Mental Health Services
KPPD	Knowledge of Postpartum Depression
OBGYN	Obstetrics and Gynecological
PI	Primary Investigator
PPD	Postpartum Depression
QOL	Quality of Life
SPSS	Statistical Package for the Social Sciences

CHAPTER I

INTRODUCTION

This pilot study was designed to evaluate a theory-based, antenatal educational intervention intended to enhance pregnant women's willingness to seek psychological help should they recognize symptoms of postpartum depression (PPD). The intervention was focused on addressing barriers that affect help-seeking behavior for the treatment of PPD. These barriers are lack of knowledge of PPD and perceived stigma regarding seeking psychological help for the treatment of PPD (Byatt et al., 2013a; Freed et al., 2012; Hannan, 2016; Henshaw et al., 2016). It is hypothesized that an intervention addressing these barriers can increase pregnant women's willingness to seek psychological help for PPD by enhancing their knowledge of PPD and decreasing perceived stigma associated with help-seeking behavior.

This chapter provides an overview of PPD, the significance of the problems associated with untreated PPD, and a brief description of the barriers that prevent help-seeking behavior. Knowledge gaps and the significance of the research are identified, use of the Health Belief Model (HBM; Rosenstock, 1974) as a guiding theory for the study is proposed, followed by identification of the purpose, research questions, and hypotheses.

Background and Significance

PPD, the most common complication of the postpartum period, affects as many as one in seven women (American College of Obstetricians and Gynecologists, 2015; American Psychological Association, 2019; March of Dimes, 2019). However, PPD continues to be underdiagnosed and undertreated (Bass & Bauer, 2018). This finding is particularly concerning since when untreated, PPD can result in long-term maternal and child complications (Foulkes, 2011; Freed et al., 2012).

Postpartum Depression

PPD is a postpartum mood disorder that occurs in the first year following childbirth (American College of Obstetricians and Gynecologists, 2013). Signs and symptoms of PPD may include persistent sadness, anxiety, hopelessness, irritability, guilt, insomnia, and feelings of self or infant harm (American College of Obstetricians and Gynecologists, 2013; Drake et al., 2014). Women with PPD may also have trouble completing daily care activities and functioning in social and occupational settings (Bass & Bauer, 2018; National Institute of Mental Health, 2017). Symptoms of PPD typically occur approximately two weeks after childbirth but may not appear for several months following delivery (American College of Obstetricians and Gynecologists, 2013). PPD responds best to treatment when diagnosed early and results in fewer maternal and infant complications (American College of Obstetricians and Gynecologists, 2013); however, many women suffering from PPD wait until crisis point to seek psychological help, if they seek help at all (Foulkes, 2011; Rai et al., 2015). The

American College of Obstetricians and Gynecologists (2018) recommends that healthcare providers complete a mood and emotional well-being assessment on all women during the postpartum period, and this includes screening for PPD. If a woman is diagnosed with PPD, psychotherapy and pharmacological therapy have been found to be effective forms of treatment (American College of Obstetricians and Gynecologists, 2016b).

Postpartum Blues

PPD is often confused with postpartum blues, a less severe postpartum phenomenon that occurs in up to 85% of women (Rai et al., 2015). Postpartum blues typically occurs one to three days after childbirth and resolves, without treatment, by the end of the second postpartum week. Signs and symptoms of postpartum blues may include sadness, frequent crying, anxiety, and restlessness (American College of Obstetricians and Gynecologists, 2013; McCarty, 2016). However, unlike PPD, postpartum blues does not affect a woman's ability to function in daily activities (Bass & Bauer, 2018; Rai et al., 2015).

Maternal Effects of Postpartum Depression

The entrance into motherhood is thought to be a time of happiness and excitement; however, up to 25% of women suffer from PPD in the first postpartum year (American College of Obstetricians and Gynecologists, 2015; March of Dimes, 2016). PPD significantly impairs women's quality of life in multiple aspects such as marital relationships, social functioning, occupational functioning, personal care, and household care (Sadat et al., 2014). Women who

experienced PPD described it as “nightmarish”. They also reported feeling lonely, isolated, ashamed, and as if they had failed as a mother (Haga et al., 2011; Hannan, 2016). In addition, some women have reported self-harm due to feelings of failure (Hannan, 2016). According to the American College of Obstetricians and Gynecologists (2016a), self-harm is not uncommon among women with PPD.

Moreover, maternal death from suicide exceeds maternal mortality caused from both pregnancy-associated hemorrhage and hypertensive disorders combined (American College of Obstetricians and Gynecologists, 2016a). A study conducted of postpartum women (*n* = 1,073) regarding suicide ideation in the postpartum period found that 6% (*n* = 64) of participants reported suicide ideation when including the response “hardly ever” as an indicator of suicide ideation (Bodnar-Deren et al., 2016). When excluding this response, 2% (*n* = 24) of participants reported suicide ideation. Positive PPD screens were significantly correlated with suicide ideation (Bodnar-Deren et al., 2016). In another study of postpartum women (*n* = 4150), results showed that 9% (*n* = 374) of participants reported suicide ideation (Howard et al., 2011). This study also found PPD to be significantly associated with suicide ideation (Howard et al., 2011). These findings clearly warrant a need to increase help-seeking behavior to prevent devastating consequences among women with PPD.

Child Effects of PPD

Women are not the only ones affected by PPD (Goodman et al., 2011; Khan et al., 2014; Murray et al., 2014). PPD can cause women to perceive their

infants with negative emotions. This negative perception can result in a lack of affection and bonding between the mother and infant. Bonding is an important component involved in developing an adequate maternal-infant attachment. Therefore, a lack of bonding adversely affects infant development and maternal-infant attachment (Lefkovics et al., 2018). In infants, inadequate attachment has been associated with failure to thrive, language delays, and delayed social interaction (Bass & Bauer, 2018; Scheffler et al., 2018). Mothers with PPD are less likely to interpret infant cues which can result in feeding and sleeping difficulties in the infant. These mothers are also less likely to take their infants to well-child visits and obtain recommended vaccinations which are detrimental to the infants' health (Madlala & Kassier, 2018). Research shows that women with PPD are more likely to formula feed, instead of breastfeeding, and also place the infant on their stomach to sleep (Bass & Bauer, 2018; Madlala & Kassier, 2018). This is concerning since both practices are associated with an increased risk of sudden infant death syndrome (Centers for Disease Control and Prevention, 2018; National Institutes of Health, 2019).

The child effects of PPD are long-term, lasting far beyond infancy. Children and adolescents of women with PPD experience cognitive and emotional delays and have higher levels of general psychopathology, depression, and negative behavior (Drake et al., 2014; Goodman et al., 2011; Khan et al., 2014; Murray et al., 2014). They are also at a higher risk of obesity due to less engagement in physical activity and lack of nutritionally balanced meals (Madlala & Kassier, 2018). These negative effects on the mother and child

clearly warrant a need to increase the rate of help-seeking behavior among women with PPD.

Barriers to Help-Seeking Behavior

PPD is the most underreported, underdiagnosed, and undertreated complication of the postpartum period (Bass & Bauer, 2018; Rai et al., 2015). Approximately 85% of women who experience signs and symptoms of PPD fail to seek psychological help (Corrigan et al., 2015; Postpartum Progress, 2016). Lack of knowledge of PPD and perceived stigma towards seeking psychological help for the treatment of PPD are barriers that prevent women from seeking psychological help (Bell et al., 2016; Byatt et al., 2013a; Dunford & Granger, 2017; Foulkes, 2011; Freed et al., 2012; Hannan, 2016; Henshaw et al., 2016; Thomas et al., 2014). Therefore, an antenatal educational intervention addressing the barriers regarding knowledge of PPD and perceived stigma for seeking treatment is needed to increase women's willingness to seek psychological help.

Knowledge Gaps and Significance of this Research

Researchers have identified two main barriers that prevent women from seeking psychological help, lack of knowledge regarding PPD and perceived stigma associated with seeking help (Bell et al., 2016; Byatt et al., 2013a; Dunford & Granger, 2017; Foulkes, 2011; Freed et al., 2012; Hannan, 2016; Henshaw et al., 2016; Thomas et al., 2014). However, prior research has focused on preventing or reducing symptoms of PPD (Maimburg & Vaeth, 2015; McCarter-Spaulding & Shea, 2016; Milgrom et al., 2011; Moshki et al., 2013;

Phipps et al., 2013). In order for interventions aimed at treating and reducing symptoms of PPD to be effective, women must first seek help. To increase help-seeking behavior, lack of knowledge regarding PPD and perceived stigma associated with help-seeking behavior must be addressed. Several interventions have addressed lack of knowledge related to PPD (Dwanyen & Han, 2018; Maimburg & Vaeth, 2015; McCarter-Spaulding & Shea, 2016; Milgrom et al., 2011; Moshki et al., 2013; Phipps et al., 2013); however, only one intervention has addressed perceived stigma associated with help-seeking behavior (Thorsteinsson et al., 2018).

It is concerning that researchers are failing to address perceived stigma associated with help-seeking behavior for PPD because there is ample evidence in the literature to show this is a main barrier to help seeking. Throughout the literature, women reported not seeking help for PPD due to fears of being judged by providers, family members, and friends (Bina, 2018; Byatt et al., 2013a; Foulkes, 2011; Rouhi et al., 2019). Women also reported not seeking help to avoid being labeled as psychiatric or mental patients (Bina, 2018; Henshaw et al., 2016; Rouhi et al., 2019). Other women failed to seek help because they were embarrassed to admit that they were not coping as mothers (Byatt et al., 2013a; Hadfield & Wittkowski, 2017; Henshaw et al., 2016). To avoid admitting that they were defeated or inadequate mothers were also reported as reasons not to seek help for PPD (Button et al., 2017; Bina, 2018; Foulkes, 2011; Hadfield & Wittkowski, 2017; Henshaw et al., 2016).

There is a critical need for an educational intervention that addresses barriers of help-seeking behavior for the treatment of PPD, specifically perceived stigma associated with help-seeking behavior. Increasing the rate of help-seeking behavior among women who develop PPD can result in improved maternal QOL, reduced rates of maternal suicide, enhanced maternal-infant attachment, and decreased cognitive and behavioral complications in children. These maternal and child benefits of increased help-seeking behavior clearly warrant the development and implementation of an educational intervention focused on addressing barriers that prevent help-seeking for the treatment of PPD. An educational intervention, based on the concepts of the HBM, has the potential to increase women's willingness to seek psychological help if they were to develop symptoms of PPD.

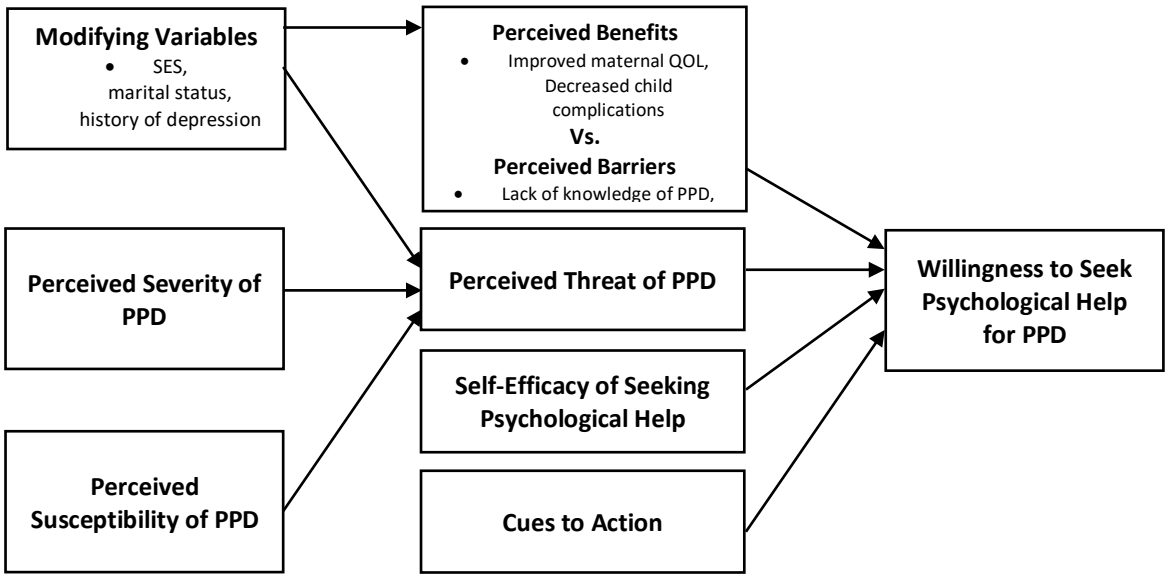
The Health Belief Model

The HBM is appropriate to guide the development of an antenatal educational intervention addressing barriers to help-seeking behavior. According to the model, one's health behavior can be explained by seven constructs: 1) perceived susceptibility, 2) perceived severity, 3) perceived threat, 4) perceived benefits, 5) perceived barriers, 6) self-efficacy, and 7) cues to action. The model also includes modifying variables such as demographics and sociopsychological variables that affect the constructs. Each construct plays an important role in determining one's health behavior or predicting one's likelihood or willingness of taking a health action (Janz & Becker, 1984; Rosenstock, 1974; Rosenstock et al., 1988).

The HBM (Figure 1) was used to frame the study. The HBM constructs (Figure 2) that were utilized for intervention development include perceived susceptibility, perceived severity, perceived threat, perceived benefits, perceived barriers, and willingness to seek psychological help.

Figure 1

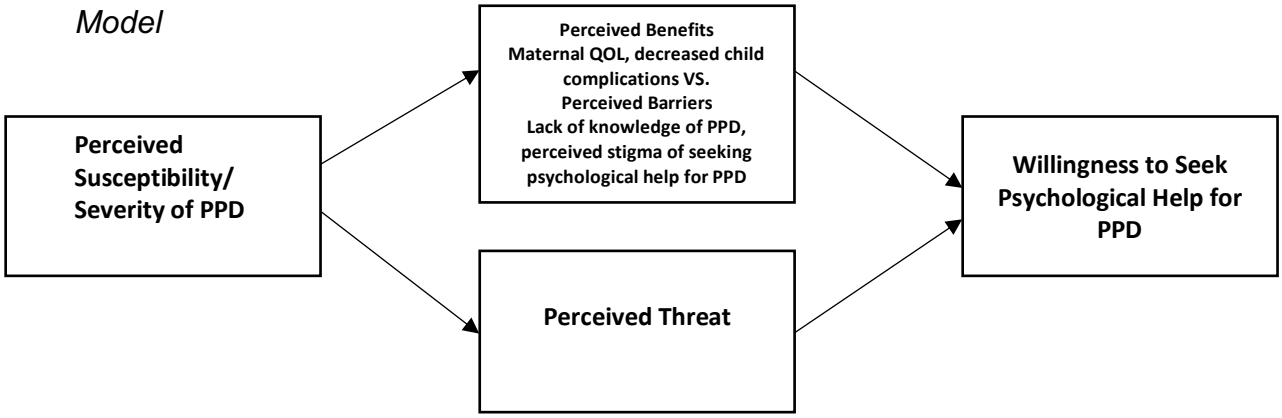
Inclusion of Knowledge and Perceived Stigma to the Health Belief Model



(Adapted from Maiman & Becker, 1974)

Figure 2

Inclusion of Constructs for Intervention Development in Modified Health Belief Model



Modifying Variables

Modifying variables included in the HBM are demographic and sociopsychological variables (Rosenstock, 1974). All postpartum women are at risk for developing PPD (American College of Obstetricians and Gynecologists, 2015). However, there are certain risk factors or variables such as history of depression, single status, lack of social support, low socioeconomic status, traumatic birth experience, preterm birth, inadequate pain relief during labor, and problems with breastfeeding that are risk factors for developing PPD (American College of Obstetricians and Gynecologists, 2015; Maimburg & Vaeth, 2015; Milgrom et al., 2011). Because the educational intervention was implemented during the antenatal period, demographic data regarding socioeconomic status (SES), marital status, and history of depression were assessed in this study.

Perceived Severity of PPD

Perceived severity refers to beliefs about how much a disease may affect an individual if contracted (Rosenstock, 1974). PPD can result in devastating consequences for women and their children (American College of Obstetricians and Gynecologists, 2015). Women who do not have a history of depression often do not understand the severity of the disease, as the term depression is used loosely in our society (Foulkes, 2011). Incorporating quotes from phenomenological studies regarding women's lived experiences of PPD into the educational intervention served as content for the construct of perceived severity. Participants who understand the severity of PPD will be more willing to seek psychological help.

Perceived Susceptibility

Perceived susceptibility refers to one's beliefs about the likelihood of contracting a disease (Rosenstock, 1974). In order to seek help for PPD, women must first believe they are susceptible to the disease. Studies have shown that many women were unaware of their susceptibility to PPD, as they believed PPD did not affect *normal* women (Byatt et al., 2013a; Hannan, 2016). The construct of perceived susceptibility was presented in the intervention as information regarding risk factors and susceptibility of PPD. This can potentially be beneficial in increasing participants' willingness to seek psychological help.

Perceived Threat

Perceived threat is a combination of women's perceived susceptibility and perceived severity of PPD. In order for participants to view PPD as a perceived threat, the intervention included statistical data regarding incidence and prevalence of PPD. For this construct, the participants must believe they are susceptible to the disease and believe the disease will have a severe impact on their lives and the lives of their children.

Perceived Benefits

Perceived benefits are how effective one thinks a recommended health action will be in preventing or treating a specific disease (Rosenstock, 1974). There are numerous benefits of seeking psychological help for the treatment of PPD such as improved prognosis, better quality of life (QOL), enhanced maternal-infant attachment, and decreased risk of behavioral and cognitive complications in children (Drake et al., 2014; Murray et al., 2014). The

importance and benefits of early diagnosis and treatment were emphasized in the educational intervention for the construct of perceived benefits. However, for health action to occur, perceived benefits must outweigh the perceived barriers (Mikhail, 1981; Rosenstock, 1974).

Perceived Barriers

Perceived barriers are anything that prevent one from taking a recommended health action (Rosenstock, 1974). Perceived barriers can prevent women from seeking psychological help for the treatment of PPD. Researchers have identified lack of knowledge regarding PPD and perceived stigma related to seeking psychological help for PPD, as barriers that often prevent women from seeking treatment (Bell et al., 2016; Foulkes, 2011; Kingston et al., 2015a). Participants must understand that PPD is a medical condition and does not mean that they are *bad* or inadequate mothers. Participants were educated regarding screening, signs and symptoms, and treatment of PPD. The goal was to increase knowledge of PPD and to attempt to normalize the condition to increase willingness of help-seeking behavior. If participants are familiar with signs and symptoms of PPD and understand that they are not alone in the battle against PPD, they may be more willing to admit their symptoms and seek help.

Self-Efficacy of Seeking Psychological Help

Self-efficacy involves one feeling capable to take a specific health action (Rosenstock et al., 1988). Because perceived stigma is one of the greatest barriers to seeking psychological help, women often feel incapable of admitting symptoms of depression due to fear of judgment and ridicule (Foulkes, 2011;

Kingston et al., 2015a). Lack of self-efficacy regarding treatment of PPD also makes women feel incapable of seeking psychological help (Freed et al., 2012; Henshaw et al., 2016). If perceived stigma and education regarding how to seek treatment are thoroughly addressed in the intervention, participants may feel more empowered to admit their feelings and seek psychological help.

Cues to Action

Cues to action are internal or external triggers that play a role in causing one to take a recommended health action (Rosenstock, 1974). Studies have shown that significant others can serve as cues to action in seeking psychological help for women who have PPD (Feely et al., 2016; Henshaw et al., 2013). According to the literature, women who developed signs and symptoms of PPD often confided in their significant other for guidance. This decision to confide in their significant other proved to be problematic, as significant others reported being unaware of the signs and symptoms of PPD. Because significant others were not familiar with the signs and symptoms of PPD, they reassured the women that their feelings were normal for new mothers. This reassurance prevented women from seeking psychological help for PPD (Fonseca & Canavarro, 2017; Haga et al., 2012). Significant others must be educated regarding PPD in order to serve as a cue to action instead of a barrier to action. Participants were encouraged to share the information obtained in the educational intervention with their significant others.

Likelihood or Willingness of Taking Action

All the concepts play an important role in the outcome of the HBM, the

likelihood or willingness of taking a recommended health action to prevent or treat disease (Rosenstock et al., 1988). Research has shown that perceived susceptibly, perceived severity, perceived threat, perceived benefits, perceived barriers, cues to action, and self-efficacy regarding PPD affect women's help-seeking behavior (Bell et al., 2016; Byatt et al., 2013a; Drake et al., 2014; Feely et al., 2016; Foulkes, 2011; Hannan, 2016; Henshaw et al., 2016). Therefore, an educational intervention for PPD based on constructs of the HBM can be beneficial in increasing participants' willingness to seek psychological help should symptoms arise.

Purpose

The overall purpose of this study was to evaluate a theory-based, antenatal educational intervention that addresses barriers to help-seeking behavior for the treatment of PPD. The goal of the proposed intervention was to enhance pregnant women's willingness to seek psychological help should they develop PPD by decreasing stigma and increasing knowledge. It is hypothesized that by improving knowledge of PPD and decreasing perceived stigma associated with seeking psychological help for PPD, participants will be more willing to seek psychological help should they develop and recognize symptoms of PPD.

Research Questions and Hypotheses

Research Question One

Do pregnant women who receive a brief educational intervention report less stigmatizing views towards seeking psychological help for PPD after the

intervention as compared to before the intervention?

Research Question Two

Do pregnant women who receive a brief educational intervention report increased knowledge of PPD after the intervention as compared to before the intervention?

Research Question Three

Do pregnant women who receive a brief educational intervention report increased willingness to seek psychological help for PPD should they experience associated symptoms after the intervention as compared to before the intervention?

Hypothesis One

Pregnant women who receive a brief educational intervention will report less stigmatizing views towards seeking psychological help for PPD after the intervention as compared to before the intervention.

Hypothesis Two

Pregnant women who receive a brief educational intervention will report increased knowledge of PPD after the intervention as compared to before the intervention.

Hypothesis Three

Pregnant women who receive a brief educational intervention will report increased willingness to seek psychological help for PPD should they experience associated symptoms after the intervention as compared to before the intervention.

Summary

The prevalence of PPD is increasing with research indicating that one in seven women experience PPD (American College of Obstetricians and Gynecologists, 2015). However, the vast majority of these women fail to seek help for the treatment of PPD (Bass & Bauer, 2018; Bina, 2018; Fonseca, Gorayeb, & Canavarro, 2015). The empirical evidence linking untreated PPD to adverse maternal and child outcomes is mounting. The focus of prior research has been on preventing PPD rather than addressing barriers to help-seeking behavior. Thus, this research assisted in the development of an intervention to increase women's willingness to seek psychological help for the treatment of PPD. The development and implementation of an intervention addressing barriers to help-seeking behavior for PPD has the potential to improve long-term maternal and child health outcomes.

CHAPTER II

REVIEW OF LITERATURE

When PPD is not properly treated, women and their children are more vulnerable to long-term health complications (Khan et al., 2014; Letourneau et al., 2012; Madlala & Kassier, 2018; Murray et al., 2014; Sadat et al., 2014). Failure to seek treatment has been associated with barriers such as lack of knowledge regarding PPD and perceived stigma associated with seeking psychological help (Bell et al., 2016; Byatt et al., 2013a; Dunford & Granger, 2017; Foulkes, 2011; Freed et al., 2012; Hannan, 2016; Henshaw et al., 2016; Thomas et al., 2014). In this chapter, a review of literature will focus on maternal and child effects of PPD, barriers to help-seeking behavior, and educational interventions that address PPD. The constructs of the HBM, perceived susceptibility, perceived severity, perceived threat, perceived benefits, perceived barriers, self-efficacy, and cues to action, will be further discussed as a means to guide the development of the educational intervention addressing barriers to help-seeking behavior for the treatment of PPD.

Overview of the Problem

Postpartum Depression

In the United States, postpartum depression affects approximately 565,000 women annually in the first year following childbirth (American College

of Obstetricians and Gynecologists, 2015; Centers for Disease Control and Prevention, 2018). Research estimates that only about 15% of these women seek psychological help (Corrigan et al., 2015; Fonseca et al., 2015) meaning that approximately 480,000 women each year endure PPD without treatment (American College of Obstetricians and Gynecologists, 2015; Centers for Disease Control and Prevention, 2018). This is an astonishing number and large percentage of women and children that are at risk for long-term health complications due to untreated PPD.

Maternal Effects

PPD is the most common maternal morbidity of the postpartum period (American College of Obstetricians and Gynecologists, 2018). Without proper treatment, PPD can result in devastating consequences that continue for months or years after childbirth (National Institute of Mental Health, 2017). Sadat et al. (2014) examined QOL in a sample of postpartum women (n =300); 122 of the women screened positive for PPD. The results of a QOL scale showed that women without PPD scored higher in all eight dimensions of QOL when compared to women with PPD, indicating that women with PPD have a lower QOL (Sadat et al., 2014). Women who do not seek treatment for PPD often report using self-help measures such as drinking alcohol, smoking cigarettes, using marijuana, and overeating in an attempt to improve their mood or QOL (Guy et al., 2014).

In addition to significantly decreasing women's quality of life (Letourneau et al., 2012; Sadat et al., 2014), and increasing the risk of suicide (American

College of Obstetricians and Gynecologists, 2016a), PPD also affects how women respond to their infants (Bembich et al., 2016; Laurent & Ablow, 2012). A study of postpartum women with PPD (n = 11) and without PPD (n = 19) examined women's cortical response via optical topography to their infants' pain. Cortical activation or response has been associated with the levels of empathy an individual is feeling. A heel-prick was performed on each infant to elicit a pain response while the mother observed. Women with PPD had a decreased cortical response to their infants' pain when compared to women without PPD, suggesting that women with PPD were less empathetic to their infant's pain responses (Bembich et al., 2016). This may partially explain the poor maternal-infant attachment among women with PPD and their infants.

Another study examined women's (*n* = 22) neural activation, via magnetic resonance imaging, in response to their infants' cry. Half of the sample had PPD while the remaining participants did not. Results suggested that women with PPD showed a diminished response to their infants' cry when compared to women without PPD. This finding indicates that women with PPD process their infants' distress signals differently than women who do not have PPD. This may also contribute to the bonding difficulties between women with PPD and their infants (Laurent & Ablow, 2012). Although PPD begins in early infancy, its negative effects reach far beyond that time period (Letourneau et al., 2012; Sadat et al., 2014).

Child Effects

A secure maternal-infant attachment is crucial for an infant's development.

Unfortunately, when a woman has PPD, this attachment can be interrupted (Rafferty et al., 2019). Behrendt et al. (2016) conducted a study examining maternal-infant attachment with a sample of 38 postpartum women. Of the 38 women included in the study, 19 screened positive for PPD. The findings showed that women with PPD had significantly higher infant-related hostility and poorer maternal-infant attachment when compared to women without PPD (Behrendt et al., 2016). These findings are concerning since an inadequate maternal-infant attachment has been associated with physical, cognitive, social, and emotional delays in the infant (Rafferty et al., 2019).

Another study of postpartum women (*n* = 431) examined the women's perceptions of their children. Results showed that women with PPD (*n* =52) had a less positive perception of their infants when compared to women without PPD (*n* = 379). Women with PPD also reported more challenges when caring for their infants. This perception along with difficulty in caring for the infant can also negatively affect maternal-infant attachment (Lefkovics et al., 2018).

Feeding practices are also a concern among infants and children of women with PPD. Women with PPD are less likely to breastfeed their infants (Madlala & Kassier, 2018). In the infant, lack of breastfeeding has been associated with an increased risk of infection and sudden infant death syndrome. Long-term risks associated with formula feeding and not breastfeeding include obesity, atopic dermatitis, childhood cancers, asthma, diabetes, and poor cognitive development (Spatz & Lessen, 2011). Infants of women with PPD are

also more likely to be exposed to unhygienic feeding practices and to be below average in height and weight (Madlala & Kassier, 2018; Sadat et al., 2014).

Infant safety issues are another concern among women with PPD. Women with PPD were found to be more likely to use physical punishment as a form of discipline, and to have negative perceptions of their infants (Sadat et al., 2014). Research indicates that infants of women with PPD are more likely to be abused and neglected and to live in homes without age-appropriate safety mechanisms. They are also more likely to ride in a vehicle without a car seat and to be left unattended for long periods of time (Letourneau et al., 2012). Additionally, these infants are less likely to receive immunizations and to attend routine well-child appointments (Madlala & Kassier, 2018). Women with PPD often feel they are incompetent parents, which may contribute to the anxiety and lack of affection they display when interacting with their children (Sadat et al., 2014).

The effects of PPD on children do not end in infancy. Results from a systematic review of over 20 studies showed that school-aged children of women who had PPD were more likely to experience socio-emotional, behavioral, and cognitive delays when compared to children of women who did not experience PPD (Kingston & Tough, 2014). Another study of 60 children found that children of depressed mothers were at a significantly higher risk of developing depression than children of non-depressed mothers (Khan et al., 2014).

Effects of PPD on children have been found to last well into adulthood. Barry et al. (2015) conducted a study of adults (mean age 22.4 years) who had

mothers with PPD (*n* = 38) and adults who had mothers that did not have PPD (*n* = 38). Salivary cortisol reactivity was used to measure sensitivity to social stress in the participants, with elevated cortisol responses indicating increased sensitivity to social stress. The researchers found that adults of women who had PPD had a significantly greater cortisol response to the Trier Social Stress Test than the adults who had mothers without PPD (Barry et al., 2015) These findings demonstrate the long-term effects on the offspring of women with PPD and the need for interventions that address barriers to help-seeking behavior among postpartum women.

Barriers to Help-Seeking Behavior

Lack of Knowledge

Multiple aspects regarding lack of knowledge of PPD have been identified in the literature. Research shows that women lack knowledge related to PPD concerning prevalence, signs and symptoms, susceptibility, screening, treatment, and how to seek help (Abraham-Smith & Kelville, 2015; Bell et al., 2016; Byatt et al., 2013a; Byatt et al., 2013b; Henshaw et al., 2016; Kingston et al., 2015a; Kingston et al., 2015b; Thomas et al., 2014).

Prevalence

One in seven women are diagnosed with PPD (American College of Obstetricians and Gynecologists, 2015; American Psychological Association, 2019; March of Dimes, 2016); however, research indicates that many women are unaware of the prevalence, and this has been found to be a barrier to help-seeking behavior. The evidence suggests that women with PPD felt alone and as if no one else had experienced PPD. This feeling of isolation prevented many

women from seeking psychological help (Bell et al., 2016; Bina, 2018; Thomas et al., 2014). However, when women realized that they were not alone and that many women experience PPD, they felt the disease was normalized. This normalization of PPD empowered women to seek psychological help (Thomas et al., 2014).

Signs and symptoms

Researchers have found that many women are unaware of the signs and symptoms associated with PPD. Studies show that this lack of knowledge or awareness prevented women with PPD from seeking psychological help (Fonseca et al., 2015; Guy et al., 2014; Henshaw et al., 2016). The lack of knowledge can partly be contributed to the absence of patient education provided in some healthcare facilities. Many women stated that PPD was never mentioned or presented as a potential issue throughout the duration of their pregnancy and postpartum period (Byatt et al., 2013a; Hannan, 2016).

Thomas et al. (2014) examined online, public domain stories written by women who have histories of PPD. Women reported being unhappy after childbirth but not realizing they had PPD until learning about the signs and symptoms years later (Thomas et al., 2014). Guy et al. (2014) found that women with PPD described themselves as being stressed, having a negative outlook, or not feeling like themselves; however, these women did not associate their feelings or symptoms with PPD. Findings from other studies showed that women thought the symptoms of PPD they were experiencing were a normal part of motherhood (Henshaw et al., 2016; Rouhi et al., 2019). Other women reported

mistaking PPD for postpartum blues because they were not familiar with the signs and symptoms associated with PPD (Hadfield & Wittkowski, 2017).

A study conducted by Fonseca et al. (2015) of pregnant and postpartum women (*n* = 656) examined help-seeking behaviors and barriers to help-seeking for PPD. Of the 656 participants, 198 screened positive for PPD; however, only 27 women (13.6%) had sought psychological help. Seventy six percent of the women reported not seeking help because they did not know if their symptoms warranted help or treatment; they were not aware that their symptoms were due to PPD (Fonseca et al., 2015).

In a systematic review of 35 studies, Bina (2018) found that a common predictor of not seeking help for PPD was a lack of knowledge regarding the signs and symptoms. Women thought the symptoms they were experiencing were due to hormonal changes and were to be expected following the birth of a child (Bina, 2018). Findings from a meta-synthesis of 24 qualitative articles examining help-seeking behavior for PPD also showed that women were unfamiliar with the signs and symptoms. These women reported not knowing what PPD would feel or look like and having an overall lack of knowledge of the disorder (Button et al., 2017).

Another study of pregnant women (*n* = 460) explored barriers and facilitators to help-seeking behaviors and found that 245 (53.2%) of participants did not know the difference between normal and abnormal emotions after childbirth (Kingston et al., 2015a). Henshaw et al. (2016) found that only being aware of severe symptoms of PPD also served as a barrier to help-seeking

behavior. Women reported that their symptoms were not severe enough to warrant seeking help. Findings showed that they felt they did not have PPD because they were able to function in daily life and were not thinking of harming themselves or their infants (Henshaw et al., 2016). Being aware of all the signs and symptoms of PPD has been found to facilitate help-seeking behavior among women with PPD (Bina, 2018). There is a need to educate antepartum women about signs and symptoms of PPD they may experience after childbirth. This proactive education has the potential to increase recognition of PPD and help-seeking behavior among postpartum women.

Susceptibility

According to the literature, women who did not have histories of depression or other forms of mental illness were less likely to seek psychological help because they were unaware that they were susceptible to PPD. Women reported being uneducated regarding potential problems that could occur in the postpartum period (Rouhi et al., 2019). These women believed that PPD only occurred in “crazy” women or women who had prior histories of mental illness (Fonseca et al., 2015; Foulkes, 2011; Hannan, 2016). This lack of perceived susceptibility presents as a barrier to help-seeking behavior. If women do not believe they are susceptible to PPD, they will not identify the disorder or seek help.

Similar to the concept of susceptibility, in another study, women did not seek help because they believed were not entitled or allowed to have PPD. These women had healthy infants, a support system, were married, and

financially stable. They felt that they had no reason to be depressed due to their fortunate circumstances. They believed that only women with problems such as having a sick infant, a lack of support, or financial difficulties were allowed to have PPD. Friends and family members confirmed the women's beliefs by asking them what reasons they had to be depressed. They also told them to be thankful for what they have and to pull themselves together (Abraham-Smith & Kelville, 2015). These beliefs regarding PPD demonstrate a lack of knowledge regarding the susceptibility of PPD.

Screening

A lack of knowledge regarding screening for PPD was another barrier to help-seeking behavior identified in the literature. In a study of pregnant women (n =460), Kingston et al. (2015b) explored disclosure during PPD screening. Findings from the study showed that 97 (21%) participants could not be completely honest while completing a screening questionnaire to identify PPD. The main barrier that prevented women from answering honestly was the fear of being judged by the healthcare provider and being viewed as a bad mother. Women felt empowered to answer honestly when they understood the purpose of the screening tool and why sensitive questions were asked (Kingston et al., 2015b).

Additional literature regarding screening and help-seeking behaviors showed that women did not disclose their symptoms of PPD due to fear of negative consequences. Women were afraid they would been seen as unfit mothers and lose custody of their children or be reported to child protective

services if they were diagnosed with PPD (Byatt et al., 2013b; Freed et al., 2012). This absence of disclosure is due to a lack of knowledge regarding the purpose of PPD screening tools and the consequences associated with being diagnosed with PPD.

Treatment

Another barrier to help-seeking behavior identified in the literature was a lack of knowledge regarding treatment for PPD. In order to prevent further complications, PPD must be treated. Talk therapy, antidepressants, or a combination of therapy and antidepressants have been found to be effective in treating PPD (National Institute of Mental Health, 2017). However, studies have shown that many women feel their symptoms will improve without treatment (Bina, 2018; Henshaw et al., 2016; Kingston et al., 2015a). In a study of pregnant women regarding help-seeking behaviors for PPD (n = 460), Kingston et al. (2015a) found that 325 (70.7%) participants believed they did not need treatment for PPD. Women often reported feeling that PPD was something they could overcome on their own (Bina, 2018; Kingston et al., 2015a).

A lack of knowledge regarding methods of treatment was also found to be a barrier to help-seeking among postpartum women. In a study examining depression literacy of pregnant and postpartum women (*n* = 194), Fonseca et al. (2017) found that 125 (64.5%) participants did not believe that therapy was an effective form of treatment for PPD. One hundred and seventy-three (89.2%) women thought that antidepressants were addictive, and 123 (63.4%) women believed that PPD could be treated with vitamins (Fonseca et al., 2017). Other

studies found that women believed that antidepressants were the only form of treatment for PPD (Foulkes, 2011; Hannan, 2016). Since these women did not like the idea of being on antidepressants and were concerned about side effects of the medication, they chose not to seek treatment. Other women did not understand the importance of seeking treatment (Bina, 2018; Bodnar-Deren et al., 2017; Foulkes, 2011). Therefore, it is critical that women are properly educated on treatments for PPD and the long-term maternal and child complications that can occur when PPD is not treated.

How to seek help

Research indicates that some women wanted to seek help for PPD but lacked the knowledge of how to seek help. Fonseca et al. (2015) conducted a study regarding help-seeking behaviors for PPD among pregnant and postpartum women (*n* = 656). One hundred and seventy-one of the depressed participants had not sought help and completed a questionnaire regarding barriers to seeking help. Results showed that 67 (39.2%) participants did not seek help for PPD because they did not know how or where to do so (Fonseca et al., 2015). Women who received information on how to seek help felt that the information should have been more specific. They voiced a need to know exactly who to contact to seek help. Without this information, they were afraid that they may contact the wrong provider. Because these women did not want to share their sensitive feelings with anyone unnecessarily, they chose not to seek help (Byatt et al., 2013a; Drake et al., 2014). In order to increase help-seeking behavior, women recommended detailed information on how to seek help that

included multiple options such as providers, support groups, and various treatment facilities (Byatt et al.; Feely et al., 2016). Providing women with this information as part of the antenatal educational intervention regarding PPD, has the potential to increase help-seeking behavior.

Perceived Stigma

Society views the birth of a child as a joyful experience. Women are expected to be happy after having a child; therefore, PPD is often stigmatized (Bina, 2018; Pawluski et al., 2017). PPD has been described as being two-fold; not only are women stigmatized for having a mental illness, but also for not fulfilling society's expectations of a *good mother* (Thomas et al., 2014). In addition to a lack of knowledge regarding many aspects of PPD, perceived stigma has also been identified as a major barrier that prevents women from seeking psychological help for the treatment of PPD. In a systematic review of 35 articles examining factors associated with treatment use for PPD, Bina (2018) found that women failed to seek help because they were afraid of being labeled as mentally ill by their healthcare providers. They thought their family and friends would view them as unfit mothers. They also reported that being diagnosed with PPD would make them feel as if they have failed as a mother (Bina, 2018).

Byatt et al. (2013a) conducted a study of postpartum women (n = 27) to examine their views on depression care in obstetrical settings. Findings showed that women did not disclose their symptoms of PPD due to fears of being judged by family members, friends, and healthcare providers. Women reported that they felt pressured by society to be *super-mothers*; therefore, they chose not to seek

help to avoid being stigmatized (Byatt et al., 2013a). A review of nine qualitative articles examining help-seeking behaviors of postpartum women found that one of the main barriers to help-seeking was fear of judgement by others. Women reported feeling ashamed for experiencing symptoms of PPD, and they were worried about being labeled as psychiatric patients (Rouhi et al., 2019). This perceived stigma associated with seeking psychological help for the treatment of PPD prevented numerous women from seeking help.

In a qualitative study of postpartum women (*n* = 39) conducted by Henshaw et al. (2106), findings revealed that women were extremely reluctant to seek help for PPD. This reluctance was due to the stigma associated with having PPD and seeking psychological help. Women were afraid of being labeled as depressed and what others would think of them if they were diagnosed with PPD. They viewed seeking help as being defeated. Seeking help was confirmation that they were unable to cope in their new role as a mother. Additionally, women avoided seeking treatment due to the stigma associated with seeing a therapist and taking antidepressants (Henshaw et al., 2016).

A systematic review of 17 qualitative studies regarding experiences of help-seeking among women with PPD found that many women did not seek help because they were ashamed and embarrassed to admit that they were unable to cope (Hadfield & Wittkowski, 2017). Women's desire to be viewed as perfect mothers also prevented them from seeking help. If they sought help and were diagnosed with PPD, others may view them as inadequate mothers. Findings also showed that women were dishonest when asked about their emotions

because they were afraid of what their healthcare providers would think of them if they disclosed their true feelings (Hadfield & Wittkowski, 2017).

A meta-synthesis of 24 qualitative studies examined women's experiences of help seeking related to PPD (Button et al., 2017). Findings continue to support perceived stigma as a main barrier to help-seeking among women with PPD. Women reported wanting to be viewed as ideal mothers. In order to maintain this image, women hid their symptoms instead of seeking psychological help. Being labeled as weak or inadequate were other reasons women often chose not to seek help for PPD (Button et al., 2017).

Foulkes (2011) found that many women did not seek help because of the shame associated with having PPD. Women reported being criticized by family members and friends for sharing their concerns regarding their emotional statuses. This criticism from others led them to hide their emotions and attempt to cope on their own. Findings also showed that women failed to seek help because they thought their significant others would think they could not handle motherhood. One woman reported that she was afraid her husband would leave her and obtain custody of their child if she was diagnosed with PPD (Foulkes, 2011).

According to the American College of Obstetricians and Gynecologists (2013), PPD results in fewer long-term maternal and infant complications and responds best to treatment when diagnosed early. Yet, evidence showed that many women waited to seek help until they could no longer hide or manage the symptoms on their own (Foulkes, 2011; Rai et al., 2015; Thomas et al., 2014).

Unfortunately, for some women, reaching a crisis point results in suicide rather than help-seeking (American College of Obstetricians and Gynecologists, 2016a). The development and implementation of an educational intervention addressing these barriers is crucial to the long-term health and well-being of the mother and child.

Interventions

Educational interventions have been found to be effective in changing one's health behavior (Gray, Grove, & Sutherland, 2017). However, the majority of the current educational interventions in the literature regarding PPD are aimed at reducing or preventing the disorder rather than changing one's health behavior. A pre-post experimental design was used by Moshki et al. (2014) to conduct a study aimed at preventing PPD. Their sample consisted of pregnant women (*n* = 230) ranging from 28 to 30 weeks gestation with no prior history of depression or other mental disorders. Each participant completed questionnaires assessing PPD and beliefs about health behaviors. The participants in the experimental group (*n* = 115) completed an educational program that included information on physiological changes during pregnancy, antenatal complications, childbirth delivery methods, pain control, postpartum health, emotions, and PPD. The information was presented in nine workshops lasting four hours each. The control group (*n* = 115) had routine care at an obstetrical center. Findings showed that one month after the intervention, there was a significant reduction in PPD in the experimental group when compared to the control group (Moshki et al., 2014).

Phipps et al. (2013) conducted a randomized controlled trial also aimed at preventing PPD. The participants consisted of pregnant adolescents (*n* = 106) divided into an intervention group (*n* = 54) and a control group (*n* = 52). A questionnaire was used at multiple time points to assess for PPD. The intervention was delivered once a week over five weeks during the prenatal period. The last session was delivered in the hospital following childbirth. Each session lasted approximately one hour and included information on effective communication for managing relationship conflict, motherhood expectations, social support, healthy relationships, postpartum blues, and PPD. Participants in the control group also attended five weekly sessions and one postpartum session lasting approximately one hour. These sessions included information on maternal health, fetal health and development, nutrition, labor preparation, and newborn care. Results showed that the intervention was found to be effective in the reduction of PPD (Phipps et al., 2013).

Milgrom et al. (2011) conducted a randomized controlled trial of pregnant women (n = 143) aimed at reducing rates of PPD by implementing an educational intervention. The participants in the intervention group (*n* = 71) reviewed a nine-unit workbook and discussed the information with a psychologist during weekly phone calls. The majority of the workbook was focused on preparing the woman for motherhood; two of the units covered behavioral and cognitive coping strategies for PPD and anxiety. Participants in the control group received routine care from a midwife of obstetrician. After the intervention, there

were significantly fewer participants in the intervention group who screened positive for PPD when compared to the control group (Milgrom et al., 2011).

A randomized controlled trial of pregnant women (*n* = 1,193) was conducted by Maimburg & Vaeth (2015) to test the effectiveness of an antenatal educational intervention in reducing PPD. Participants in the intervention group attended three in-person sessions, for a total of nine hours, that included information on childbirth, newborn care, postpartum care, and PPD. The control group received standard obstetrical care. The intervention was found to be ineffective in reducing PPD among the sample of women. However, this may be due to the fact that only 7.5% of the total participants were identified as high risk for developing PPD prior to the intervention (Maimburg & Vaeth., 2015).

A quasi-experimental study of postpartum women (*n* = 240) was conducted by McCarter-Spaulding & Shea (2016) to test the effectiveness of an educational intervention to reduce or prevent PPD. Participants in the intervention group (*n* =120) received an educational fact sheet regarding PPD. A member of the research team discussed the fact sheet with each participant for approximately 15 minutes one day after the birth of their infant. This was the only intervention that addressed the risks of not seeking treatment for PPD. The control group (*n* =120) were screened for PPD and received standard care. The intervention was found to be ineffective in reducing PPD (McCarter-Spaudling & Shea, 2016).

Instead of focusing on reducing or preventing PPD, the focus of educational interventions should be on improving help-seeking behaviors by

addressing barriers identified in the literature. Prior to 2017, there were no educational interventions in the literature that addressed lack of knowledge and perceived stigma towards seeking psychological help for PPD. In 2017, using a pretest-posttest design, Dwanyen & Hans implemented a video-based intervention with an aim of increasing symptom recognition and reducing stigmatizing views in relation to PPD. Their sample consisted of 1,178 medical, health, behavioral, or social science students (ages 18 to 66 years). The participants answered questions after reading a three-segment vignette regarding a postpartum woman who was displaying signs and symptoms of PPD. The questions assessed knowledge and stigmatization of PPD. After completing the vignettes, the participants viewed a five-minute educational video about postpartum mood (symptoms, risk factors, treatment options, support information), and then completed the posttest. The students were moderately knowledgeable regarding signs and symptoms of PPD before the intervention, which can most likely be contributed to their fields of study. However, after the intervention, the participants were 2.2 times more likely to correctly identify signs and symptoms of PPD, and 6.4 times more likely to report that the woman in the vignette was a fit mother. This indicates that an educational video on PPD can increase knowledge and decrease stigma associated with the disorder in health and behavioral students (Dwanyen & Hans, 2017). However, this intervention has not been tested in antepartum or postpartum women.

Using a four-group, pretest-posttest design, Thorsteinsson et al. (2018) conducted a study of parents (*n* = 212; females = 194) examining stigma in

relation to help-seeking for PPD. The participants completed pretest instruments assessing perceived stigma and help-seeking propensity related to PPD; knowledge of PPD was not assessed in the study. After the pretest, two intervention groups either read a factsheet about PPD or watched a documentary that included real-life experiences of women with PPD. The two control groups either read a factsheet about parenting or watched a video on parenting. After the four groups completed the posttest, results showed that there was no significant difference regarding perceived stigma or help-seeking propensity between the intervention groups and the control groups (Thorsteinsson et al., 2018). These findings could be contributed to the lack of education regarding PPD that was provided to the intervention groups. Reading a factsheet is not engaging or interactive; therefore, the participants may not have retained the information. The amount of education regarding PPD that was included in the documentary was not indicated. There is a possibility that the intervention may have resulted in more favorable outcomes if the researchers would have combined the two intervention groups and provided the participants with a factsheet and documentary.

The results of Dwanyen and Han's (2017) study are promising; however, participants' stigma associated with seeking help for PPD was not assessed. Increasing knowledge and reducing stigma in relation to PPD are important, but the main problem is that women do not seek help for PPD. Therefore, an antenatal educational intervention aimed at increasing knowledge related to PPD and reducing stigma associated with seeking help for PPD is clearly warranted.

Constructs of the HBM were used to develop an antenatal educational intervention to increase women's willingness to seek help for PPD.

Health Belief Model

The HBM was developed in the 1950s by, Godfrey M. Hochbaum, S. Stephen Kegeles, Irwin M. Rosenstock, and Howard Leventhal, four social psychologists (Maiman & Becker, 1974; Mikhail, 1981; Rosenstock, 1974). Influenced by the strong scientific, behavioral, and psychosocial backgrounds of the developing theorists, the HBM was created in an attempt to understand and explain health related behavior (Mikhail, 1981; Rosenstock, 1). It was discovered that if individuals believed they could potentially contract a disease and that an early diagnosis could improve their health outcomes, they were more likely to be compliant with health recommendations (Strecher & Rosenstock, 1997).

Although the HBM was derived from the social and behavioral sciences, the model has been widely utilized in the field of healthcare (Janz & Becker, 1984; Rosenstock, 1974). Specifically, the HBM has been used to predict health behaviors (McWhirter & Hoffman-Goetz, 2016; Reynolds et al., 2016; Wang et al., 2013), develop educational programs (Adams et al., 2014; Dardis, et. al., 2015; Wang et al., 2013), and develop interventions (McArthur et al., 2018; Sadeghi et al., 2018; Shabibi et al., 2017). Although, the HBM has not been used in relation to PPD, it has been used in the obstetric population. Loke et al. (2015) used the HBM among pregnant women to predict the factors that influence their preferred mode of delivery. Tavakkoli et al. (2018) developed an educational intervention based on the HBM to enhance the QOL of women with gestational

diabetes. Results showed that their educational intervention was effective in improving QOL among this population (Tavakkoli et al., 2018).

Origins of the HBM have been linked with a phenomenological emphasis, meaning that one's reality is based on one's perceptions (Rosenstock, 1974). Therefore, the use of this model is appropriate to develop an antenatal educational intervention addressing barriers that prevent help-seeking behavior for PPD. The following constructs of the HBM were used to guide the development of the intervention 1) perceived susceptibility, 2) perceived severity, 3) perceived threat, 4) perceived benefits, 5) perceived barriers, 6) self-efficacy, and 7) cues to action. If women perceive they are susceptible to PPD and understand its severity, they are more likely to seek help. Additionally, women must believe that the benefits of seeking help outweigh the barriers and that they are able to seek help. If significant others are properly educated regarding PPD, they can also play a positive role in women's willingness to seek help for PPD.

Summary

PPD is complex mental disorder that can result in devastating consequences in the mother and child when untreated (American College of Obstetricians and Gynecologists, 2016a; National Institute of Mental Health, 2017; Rafferty et al., 2019). However, evidence suggests that the vast majority of women who experience symptoms of PPD fail to seek help (Bass & Bauer, 2018; Bina, 2018; Fonseca et al., 2015). Research findings indicate that two main barriers that prevent women from seeking help are lack of knowledge related to PPD and perceived stigma associated with seeking help (Bell et al., 2016; Byatt

et al., 2013a; Dunford & Granger, 2017; Foulkes, 2011; Freed et al.,2012; Hannan, 2016; Henshaw et al., 2016; Thomas et al., 2014). Nevertheless, the focus of the majority of educational interventions found in the literature is to prevent or reduce rates of PPD, rather than to increase help-seeking behavior by addressing lack of knowledge and perceived stigma (Maimburg & Vaeth, 2015; McCarter-Spaulding & Shea, 2016; Milgrom et al., 2011; Moshki, et al., 2013; Phipps et al., 2013). Studies that addressed barriers to help-seeking behavior resulted in conflicting findings (Dwanyen & Hans, 2017; Thorsteinsson et al., 2018). This inconsistency may be contributed to the difference in the amount of education provided or the presentation of the information between the two studies. Nonetheless, there are no educational interventions in the literature that are aimed at increasing knowledge of PPD and decreasing perceived stigma associated with seeking help. An antenatal educational intervention based on the concepts of the HBM and designed to increase knowledge of PPD and decrease perceived stigma associated with help-seeking has the potential to lay the foundation for future protocols regarding PPD education.

CHAPTER III

METHODOLOGY

This chapter presents the methodology used for the pilot study. The study uses a single group, pre-test post-test, quasi-experimental design to test an antenatal educational intervention based on constructs of the HBM. The independent variable is the educational intervention, and the outcome variables are knowledge of PPD, perceived stigma associated with seeking psychological help for PPD, and willingness to seek psychological help for PPD. The purpose of this chapter is to describe the methodology used for this pilot study. A detailed discussion of the research design, study setting, sample, protection of human subjects, instruments, data management, and data analysis is presented.

Design

A quasi-experimental pretest post-test single-group research design was used to test an antenatal educational intervention delivered to pregnant women to determine if the intervention results in increased knowledge of PPD, reduced perceived stigma associated with seeking help for PPD, and increased willingness to seek help should they develop PPD. The design has been developed to answer the following research questions.

Research Question One

Do pregnant women who receive a brief educational intervention report less stigmatizing views towards seeking psychological help for PPD after the intervention as compared to before the intervention?

Research Question Two

Do pregnant women who receive a brief educational intervention report increased knowledge of PPD after the intervention as compared to before the intervention?

Research Question Three

Do pregnant women who receive a brief educational intervention report increased willingness to seek psychological help for PPD should they experience associated symptoms after the intervention as compared to before the intervention?

Hypothesis One

Pregnant women who receive a brief educational intervention will report less stigmatizing views towards seeking psychological help for PPD after the intervention as compared to before the intervention.

Hypothesis Two

Pregnant women who receive a brief educational intervention will report increased knowledge of PPD should they experience associated symptoms after the intervention as compared to before the intervention.

Hypothesis Three

Pregnant women who receive a brief educational intervention will

report increased willingness to seek psychological help for PPD should they experience associated symptoms after the intervention as compared to before the intervention.

Setting and Sample

The participants were recruited from a private obstetrics and gynecological (OBGYN) office located in the southeastern United States that serves patients who live in Alabama and by social media. A convenience sample of pregnant women were recruited using flyers posted at the OBGYN office and distributed by the nursing staff to potential participants. Flyers were also posted via social media. Women meeting the following inclusion criteria were invited to participate in the study: 1) aged 18 years or older; 2) currently in the second or third trimester of pregnancy; 3) able to read, write, and speak English; and 4) access to the internet and a device to complete the educational intervention. Women's history of mental illness was assessed. Mental illness is defined as a prior or current diagnosis of any mental disorder and was self-reported by participants.

Protection of Human Subjects

Prior to collecting data, IRB approval was obtained from Georgia State University. Prior to signing informed consent, details of the research project including the purpose, study design, time commitment, and compensation were explained. After this information was provided, women had the opportunity to contact the student PI by telephone or email to ask questions. Written consent was obtained from all women who agreed to participate in the study. Following receipt of informed consent, anonymity was protected by assigning each

participant a random number. These numbers were used on the survey forms. Data collection occurred via self-report using electronic forms. Quantitative data was transferred from each electronic form to Statistical Package for the Social Sciences (SPSS) version 28. A master list with the name and number of each participant was maintained by the student PI. The survey forms did not contain any identifying information. The data and the master list are stored separately in two locked file cabinets. All electronic data is stored on a password protected computer.

Participation was voluntary, and participants were allowed to withdraw from the study at any time. This study carries no additional risk to participants than normal everyday life. Only aggregated data (no personal information) will be published. All data and study materials remain in the possession of the student PI for five years and will then be destroyed.

Antenatal Educational Intervention

The antenatal educational intervention is designed to increase knowledge of PPD, decrease perceived stigma associated with seeking psychological help for PPD, and increase willingness to seek psychological help for PPD. The educational intervention consisted of one online presentation lasting approximately 30 minutes. A script that covered the purpose, inclusion/exclusion criteria, and time commitment was read to potential participants by the student PI. Women who were interested in participating in the study and met inclusion/exclusion criteria were invited to participate in the intervention. After informed consent was obtained, the presentation was delivered electronically via

mobile phone, device, or computer. The following four components were reviewed during the presentation:

Component 1: General information about postpartum blues and PPD was discussed which included the definitions, signs and symptoms, and prevalence. The differences between postpartum blues and PPD were also described. This content was based on information from the American College of Obstetricians and Gynecologists (Postpartum Depression Frequently Asked Questions), the Centers for Disease Control and Prevention (Depression During and After Pregnancy), the American Psychiatric Association (What is Postpartum Depression?), and the National Institute for Mental Health (Postpartum Depression Facts).

Component 2: This component included information regarding perceived susceptibility, perceived severity, and perceived stigma associated with PPD. Quotes regarding women's lived experiences with PPD were also included. This content was based on various research studies found in the literature.

Component 3: The focus of this component was the importance of seeking psychological help for the treatment of PPD. Maternal and child risks of not receiving psychological help for PPD and the benefits associated with receiving help were discussed. This content was based on information from the American College of Obstetricians and Gynecologists (Mental Health Reform), the National Institute of Mental Health (Postpartum Depression Facts), the American Academy of Pediatrics

(Perinatal Depression into Pediatric Practice), and various research articles.

Component 4: The final component was focused on screening and treatment for PPD. Information regarding how and where participants can seek help were also included. This content was based on information from the American College of Obstetricians and Gynecologists (Postpartum Depression Resource Overview), the American Psychiatric Association (What is Postpartum Depression?), Postpartum Support International (Local Support and Help), and local providers and facilities for help-seeking.

The educational intervention was delivered online via a link provided to participants. The educational intervention was presented as a video narrated by the student PI. The video contained slides and pictures in the format of a PowerPoint presentation. A manual of content with a full script, developed by the student PI, was used to guide the narration in the intervention.

Instruments

Demographics

A demographic characteristics questionnaire (Appendix A) developed by the student PI was administered to all study participants pre-intervention. Data elements in the demographic characteristics questionnaire included: 1) age; 2) ethic background; 3) educational level; 4) employment status; 5) marital status; 6) annual household income; 7) prior mental illness diagnosis; 8) gravida; and 9) para.

Inventory of Attitudes Towards Seeking Mental Health Services (IASMHS)

The IASMHS was used to measure the variables of willingness to seek psychological help for PPD and perceived stigma associated with seeking psychological help for PPD. The IASMHS was developed to measure one's likelihood or willingness of seeking psychological help by assessing components of one's attitude such as stigma and other factors that may prevent help-seeking behavior (see Appendix B; Aegisdottir & Gerstein, 2009; Makenzie et al., 2004). The instrument consists of 24 items that are rated on a 5-point Likert-type scale ranging from 0-4 where 0 = *disagree*, 1 = *somewhat disagree*, 2 = *undecided*, 3 = *somewhat agree*, and 4 = *agree*. Total scores can range from 0-96 with higher scores denoting more positive attitudes toward seeking psychological help. The items are divided into three subscales: 1) psychological openness, 2) help-seeking propensity, and 3) indifference to stigma. Psychological openness refers to how open one is to acknowledging their psychological issues and the likelihood of seeking psychological help. Help-seeking propensity refers to one's beliefs regarding the ability to seek psychological help. Indifference to stigma reflects how concerned one is about others finding out that they are seeking psychological help.

The scale takes approximately 5 minutes to complete. Internal reliability for the total scale was reported as a Cronbach's alpha of .87 and information and data provided were supportive of appropriate content validity and internal reliability. The Cronbach's α for the three subscales is as follows: .82 for psychological openness, .76 for help-seeking propensity, and .79 for indifference

to stigma. Test-retest reliabilities over three weeks were reported as $r = .85$ for the total score, $r = .86$ for psychological openness, $r = .64$ for help-seeking propensity, and $r = .91$ for indifference to stigma (Mackenzie et al., 2004).

The IASMHS has not been used among pregnant women to assess attitude toward seeking psychological help for PPD; however, it has been widely used among other populations such as a community sample of individuals ranging in age from 15 to 89 years and in a sample of undergraduate college students with a mean age of 21 years (Makenzie et al., 2004). It has also been used among athletes (Jones, 2015), adolescents (Munson et al., 2009), and police officers (Hyland et al., 2015). Internal reliability coefficients were calculated to determine usefulness of the instrument among this population.

Beliefs About Psychological Services (BAPS)

The BAPS was also used to measure the variables of willingness to seek psychological help for PPD and perceived stigma associated with seeking psychological help for PPD. The BAPS is an instrument that measures one's attitude toward seeking psychological help in order to predict help-seeking behavior (see Appendix C; Aegisdottir & Gerstein, 2009). The instrument consists of 18 items that are rated on a 6-point Likert-type scale ranging from 1-6 where 1 = *strongly disagree* and 6 = *strongly agree*. Total scores can range from 18-108 with higher scores reflecting a more favorable attitude toward seeking psychological help. The items are divided into three subscales: 1) intent, 2) stigma tolerance, and 3) expertness. Intent refers to one's willingness to seek psychological help. Stigma tolerance refers to one's negative beliefs regarding

seeking psychological help. Expertness reflects one's beliefs regarding a psychologist's ability to provide effective treatment. The BAPS specifically asks about one's likelihood of seeking help from a *psychologist*; other professionals who provide psychological services are not included on the instrument. This terminology may affect individuals' responses who are more likely to see a family or obstetrical physician for psychological issues; therefore, *psychologist* was replaced with *seeking psychological help*.

The scale takes approximately 5 minutes to complete. Internal reliability for the total score was reported as a Cronbach's α of .88. The Cronbach's α for the three subscales, or factors, is as follows: .82 for the subscale of intent, .78 for the subscale of stigma tolerance, and .72 for the subscale of expertness. Test-retest reliabilities over two weeks were reported as r = .87 for the total score, r = .88 for intent, r = .79 for stigma tolerance, and r = .75 for expertness. The authors also report evidence of construct validity through the expert review (Aegisdottir & Gerstein, 2009).

The BAPS has not been used among pregnant women to assess attitude toward seeking psychological help for PPD; however, it has been widely used among college students (Hermannsdottir & Aegisdottir, 2016; Makarova et al., 2013; Niegocki & Aegisdottir, 2019; Walter et al., 2012) lesbian, gay, and bisexual individuals (Spengler & Aegisdottir, 2015), and athletes (Tahtinen & Kristjansdottir, 2019).

Knowledge of Postpartum Depression (KPPD)

The KPPD (Appendix D) was developed by the student PI due to the lack of availability of instruments in the literature that measure participant knowledge of PPD. The KPPD was used to assess the variable of PPD knowledge. The student PI based the KPPD on information obtained from the National Institute of Mental Health and the American College of Obstetricians and Gynecologists. A dissertation committee member and subject matter expert, Kathleen Baggett, PhD, from the School of Public Health at Georgia State University reviewed and approved the use of the KPPD to assess knowledge of PPD. The instrument was also reviewed and approved by Dissertation Chairperson, Regena Spratling, PhD, RN, APRN, CPNP, FAANP and Dissertation Committee Member, Dawn M. Aycock, PhD, RN, ANP-BC, FAHA, FAAN, both from the School of Nursing at Georgia State University. The KPPD consists of 17 dichotomous items that were used to measure PPD knowledge. Each correct answer is awarded one point with total scores ranging from 0 to 17 with higher scores indicating greater mental health literacy of postpartum depression. The scale takes approximately 5 minutes to complete.

Data Management and Analysis

Recruitment and Data Collection

Following Georgia State University IRB approval, flyers were posted in the OBGYN office and nursing staff were asked to disseminate flyers to potential participants. The nursing staff disseminated flyers to women who meet the inclusion/exclusion criteria and are at least 13 weeks gestation. If women had

questions concerning the intervention, they were encouraged to contact the student PI by telephone. The flyers included the purpose of the study, inclusion/exclusion criteria, the student PI's contact number, and amount of participant compensation.

Data Management

Quantitative data were transferred from each questionnaire to Statistical Package for the Social Sciences (SPSS) version 28. A code book was developed for data entry. A double-entry method was used to ensure the accuracy of data entry. Each participant was assigned a random number to ensure anonymity. The participants entered their assigned number on each form. A master list with the name and number of each participant was maintained by the student PI. The forms did not contain any identifying information. The data and the master list were stored separately in two locked file cabinets, and all electronic data was stored on a password protected computer.

Data Analysis

Data was analyzed using descriptive and inferential statistics. Preliminary analysis was conducted using descriptive statistics to evaluate frequency, measures of central tendency, measures of dispersion, and distribution. Based on test assumptions, non-parametric tests were used. Internal reliability coefficients were computed on all instruments. The p-value was set at .05.

Research question 1: Do pregnant women who receive a brief educational intervention report less stigmatizing views towards seeking psychological help for PPD after the intervention as compared to before the intervention? To analyze

research question 1, results from analysis of the IASMHS, the BAPS, and associated subscales were evaluated, and Wilcoxon signed rank tests were performed.

Research question 2: Do pregnant women who receive a brief educational intervention report increased knowledge of PPD after the intervention as compared to before the intervention? The KPPD results were used to examine research question 2 and a Wilcoxon signed rank test was performed.

Research question 3: Do pregnant women who receive a brief educational intervention report increased willingness to seek psychological help for PPD should they experience associated symptoms after the intervention as compared to before the intervention? To examine research question 3, results from analysis of the IASMHS, the BAPS, and associated subscales were evaluated, and Wilcoxon signed rank tests were performed.

Hypothesis 1: Pregnant women who receive a brief educational intervention will report less stigmatizing views towards seeking psychological help for PPD after the intervention as compared to before the intervention. To analyze hypothesis 1, results from analysis of the IASMHS, the BAPS, and associated subscales were evaluated, and Wilcoxon signed rank tests were performed.

Hypothesis 2: Pregnant women who receive a brief educational intervention will report increased knowledge of PPD should they experience associated symptoms after the intervention as compared to before the

intervention. The KPPD results were used to examine research question 2 and a Wilcoxon signed rank test was performed.

Hypothesis 3: Pregnant women who receive a brief educational intervention will report increased willingness to seek psychological help for PPD should they experience associated symptoms after the intervention as compared to before the intervention. To examine research question 3, results from analysis of the IASMHS, the BAPS, and associated subscales were evaluated, and Wilcoxon signed rank tests were performed.

CHAPTER IV

RESULTS

In this chapter, the findings of a single group, pre-test post-test, quasi-experimental design to test the feasibility of an antenatal educational intervention based on constructs of the HBM are presented. Between June 2021 and September 2021, 44 women requested information regarding participating in the study. Eleven (27.3%) of those women responded to an electronic flyer posted on Facebook and thirty-two (72.7%) responded to a flyer posted at an OBGYN office in Alabama. Of the 44 women who expressed interest in participating in the study, 27 (61.3%) completed informed consent and baseline data via Qualtrics. Of those women, 24 (88.8.5%) completed the intervention and all the survey instruments.

Data Analysis

Before analysis, all online quantitative data collected using Qualtrics were transferred to the computer program SPSS version 28. A level of significance was established at $p < .05$. Data were verified using a double entry method where two separate databases were created and compared. Any discrepancies were reconciled with the original data.

Participant Characteristics

The final sample included 24 women who were at least 13 weeks pregnant. Table 1 shows a summary of the frequency distributions for

race/ethnicity, educational level, employment status, marital status, income, and mental illness history. Table 2 show the mean and standard deviation of the participants' age, gravida, and para.

The majority of the study participants were Caucasian (62.5%, *n* = 15), married (50%, *n* = 12) or partnered (12.5%, *n* = 3), and employed (62.5%, *n* = 15). The mean age the study participants was 26.54 years (*SD* = 4.60) and ages ranged from 19 to 35 years. Most had a high school degree (37.5% *n* = 9) or higher (50.1%, *n* = 12), and a yearly income between $15,000 and $49,999 (74.9 % *n* = 18). Most also denied a history of mental illness (62.5% *n* = 15). The mean gravida of the study participants was 1.79 (*SD* = 1.06) and a range of 1 to 5 pregnancies with a mean para of .88 (*SD* = .992) and a range of 0 to 3 child births.

Table 1

Study Participants Demographics

Sample Characteristics		*n* = 24
Race		
	Black/African American	8
	White/Caucasian	15
	Other	1
Education		
	Some high school	3
	High school graduate	9
	Some college	4

	College graduate	7
	Graduate degree	1
Family Income		
	Less than $15,000	5
	$15,000 - $24,999	8
	$25,000 - $34,999	2
	$35,000 - $49,999	3
	$50,000 - $74,999	1
	$75,000 - $99,999	1
	$100,000 and over	4
Marital Status		
	Married	12
	Partnered	3
	Separated	1
	Single	8
Employment		
	Full-time employed	15
	Unemployed	9
History of Mental Illness		
	Yes	9
	No	15

Table 2

Age & Obstetrical Demographics (n= 24)

	Minimum	Maximum	Mean	Std Deviation
Age	19	35	26.54	4.60
Gravida	1	5	1.79	1.06
Para	0	3	.88	.992

Instruments and Theoretical Variables

Instruments used for this study were based on a modified version of the Health Belief Model. They were designed to measure the impact that the educational intervention had on the participants' knowledge of PPD, stigmatizing views towards seeking psychological help, and willingness to seek psychological help. The internal consistency of the instruments used in this study was assessed and all had an acceptable Cronbach's alpha coefficient (> .70) except the help-seeking propensity subscale (α = .602) and the indifference to stigma subscale (α = .639). Table 3 demonstrates Cronbach's Alpha calculations for all instruments and subscales.

Table 3

Internal Consistency of Study Instruments

Study Instrument	Number of Items	Cronbach Alpha
IASMHS	24	α = .844
Psychological Openness Subscale	8	α = .811

Help-Seeking Propensity Subscale	8	α = .602
Indifference to Stigma Subscale	8	α = .639
BAPS	18	α = .895
Intent Subscale	6	α = .901
Stigma Tolerance Subscale	8	α = .726
Expertness Subscale	4	α = .874
KPPD	17	α = .778

The Inventory of Attitudes Towards Seeking Mental Health Services (IASMHS) was used to measure the participants' stigmatizing views towards seeking psychological help, and their willingness to seek psychological help before and after the intervention. Prior to the intervention, the median score for the IASMHS was moderate (*Md* =71.0). The preintervention score for the psychological openness subscale was also moderate (*Md* = 21.5), and the scores for indifference to stigma (*Md* = 25.0) and help-seeking propensity (*Md* = 26.0) were high.

The Beliefs about Psychological Services (BAPS) was used to measure the participants' stigmatizing views towards seeking psychological help, and their willingness to seek psychological help before and after the intervention. Prior to the intervention, the median total score for BAPS was moderate (*Md* = 85.0). Preintervention scores for the subscales of intent (*Md* = 26.0) and expertness

were moderate. Prior to the intervention, the score for subscale of stigma tolerance was high (*Md* = *42.0*).

The Knowledge of Postpartum Depression (KPPD) was used to measure the participants' level of knowledge regarding PPD. Each correct answer is awarded one point with higher scores indicating greater knowledge of postpartum depression. Prior to the intervention, the median score for knowledge of PPD was moderate (*Md* = 11.5).

Results for Research Questions

Research Question 1

Research Question 1: Do pregnant women who receive a brief educational intervention report less stigmatizing views towards seeking psychological help for PPD after the intervention as compared to before the intervention? Total scores and results of associated subscales from the IASMHS and the BAPS were used to examine research question 1, and Wilcoxon signed rank tests were performed. The Wilcoxon signed rank test revealed that total scores, based on the IASMHS, were significantly higher after the intervention (*Md* = 80.50, *n* = 24) compared to before (*Md* = 71.00, *n* = 24), *z* = - 3.45, *p* = < .001. Results demonstrate that overall attitudes toward seeking mental health services improved following the intervention.

In examining the IASMHS indifference to stigma subscale, a Wilcoxon signed rank test was used to identify whether participants were concerned about others finding out they were seeking psychological help after the intervention (*Md* = 24.00 x, *n* = 24) compared to before the intervention (*Md* = 25.00, *n* = 24),

Following the intervention, results from the indifference to stigma subscale indicated no statistically significant difference in participants' concern about others finding out they are seeking psychological help (p = .481).

The Wilcoxon signed rank test also revealed that total scores for stigmatizing views towards seeking psychological help for PPD, based on the BAPS, were significantly higher after the educational intervention (Md = 93.00, n = 24) compared to before (Md = 85.00, n = 24), z = -- 3.00, p = .003. Total scores examining beliefs about psychological services were significantly higher after the intervention (z = -- 3.00, p = .003). Results from the stigma tolerance subscale of the BAPS revealed a significant increase in stigma tolerance after the intervention (Md = 43.00, n = 24) compared to before the intervention (Md = 42.00, n = 24), z = - 1.98, p = .047. Participant's negative beliefs regarding seeking psychological help were improved following the intervention.

Research Question 2

Research Question 2: Do pregnant women who receive a brief educational intervention report increased knowledge of PPD after the intervention as compared to before the intervention? The KPPD was used to examine research question 2 and a Wilcoxon signed rank test was performed. The Wilcoxon signed rank test revealed that scores for knowledge of PPD were significantly higher after the educational intervention (Md = 14.00, n = 24) compared to before (Md = 11.5, n = 24), z = -- 3.24, p = .001. Among the participants, knowledge of PPD significantly increased following the intervention.

Research Question 3

Research Question 3: Do pregnant women who receive a brief educational intervention report increased willingness to seek psychological help for PPD should they experience associated symptoms after the intervention as compared to before the intervention? To examine research question 3, results from analysis of the IASMHS, the BAPS, and associated subscales were evaluated, and Wilcoxon signed rank tests were performed. As indicated above, the Wilcoxon signed rank test revealed that overall scores, based on the IASMHS, were significantly higher after the intervention (*Md* = 80.50, *n* = 24) compared to before (*Md* = 71.00, *n* = 24), *z* = -- 3.45, *p* = < .001. Similarly, the Wilcoxon signed rank test also revealed overall scores based on the BAPS, were significantly higher after the educational intervention (*Md* = 93.00, *n* = 24) compared to before (*Md* = 85.00, *n* = 24), *z* = -- 3.00, *p* = .003. Scores from both instruments, the IASMHS and the BAPS, demonstrated increased willingness to seek psychological help following the intervention.

Two subscales of the IASMH, psychological openness and help seeking propensity, were used to examine willingness to seek psychological help for PPD symptoms. Wilcoxon signed rank tests were conducted. Results from the psychological openness subscale demonstrate participants were more likely to acknowledge their psychological issues and to seek help after the intervention (*Md* = 26.00, *n* = 24) compared to before the intervention (*Md* = 21.50, *n* = 24), *z* = - 3.62, *p* = <.001. However, results from the help seeking propensity subscale indicated no statistically significant difference in participant belief regarding ability

to seek help after the intervention (*Md* = 28.00, *n* = 24) compared to before the intervention (*Md* = 26.00, *n* = 24), *z* = - 1.90, *p* = .057.

A Wilcoxon signed rank test was used to examine the intent subscale of the BAPS. Results indicated participants were more willing to seek help after the intervention (*Md* = 31.50, *n* = 24) compared to before the intervention (*Md* = 26.00, *n* = 24), *z* = - 2.207 x, *p* = .027. Additionally, examination of the expertness subscale of the BAPS was evaluated using a Wilcoxon signed rank test. The subscale examines one's beliefs regarding a psychologist's ability to provide effective treatment. Results indicated participants' beliefs regarding a psychologist's ability to provide effective treatment for PPD improved after the intervention (*Md* = 20.00, *n* = 24) compared to before the intervention (*Md* = 18.00, *n* = 24), *z* = - 3.069, *p* = .002.

Results for Hypotheses

Hypothesis 1

Hypothesis 1: Pregnant women who receive a brief educational intervention will report less stigmatizing views towards seeking psychological help for PPD after the intervention as compared to before the intervention. Total scores and subscale scores from the IASMHS and the BAPS were used to examine hypothesis 1, and Wilcoxon signed rank tests were performed. The Wilcoxon signed rank test revealed that total scores, based on the IASMHS, were significantly higher after the intervention (*Md* = 80.50, *n* = 24) compared to before (*Md* = 71.00, n = 24), *z* = - 3.45, *p* = < .001. Results demonstrate that

overall attitudes toward seeking mental health services improved following the intervention. The data supported Hypothesis 1.

Hypothesis 2

Hypothesis 2: Pregnant women who receive a brief educational intervention will report increased knowledge of PPD should they experience associated symptoms after the intervention as compared to before the intervention. The KPPD was used to examine Hypothesis 2 and a Wilcoxon signed rank test was performed. The Wilcoxon signed rank test revealed that scores for knowledge of PPD were significantly higher after the educational intervention (*Md* = 14.00, *n* = 24) compared to before (*Md* = 11.5, *n* = 24), *z* = -- 3.24, *p* = .001. Among the participants, knowledge of PPD significantly increased following the intervention. The data supported Hypothesis 2.

Hypothesis 3

Hypothesis 3: Pregnant women who receive a brief educational intervention will report increased willingness to seek psychological help for PPD should they experience associated symptoms after the intervention as compared to before the intervention. To examine Hypothesis 3, results from analysis of the IASMHS, the BAPS, and associated subscales were evaluated, and Wilcoxon signed rank tests were performed. As indicated above, the Wilcoxon signed rank test revealed that overall scores, based on the IASMHS, were significantly higher after the intervention (*Md* = 80.50, *n* = 24) compared to before (*Md* = 71.00, *n* = 24), *z* = -- 3.45, *p* = < .001. Similarly, the Wilcoxon signed rank test also revealed overall scores based on the BAPS, were significantly higher after the educational

intervention (*Md* = 93.00, *n* = 24) compared to before (*Md* = 85.00, n = 24), *z* = --3.00, *p* = .003. Scores from both instruments, the IASMHS and the BAPS, demonstrated increased willingness to seek psychological help following the intervention. The data supported Hypothesis 3.

Table 4

Pre and Post-test Results (n = 24)

Study Instrument	Pre-test *Md* (Range)	Post-test *Md* Range)	Z score Wilcoxon	p value
IASMHS (0 – 96)	71.0 (30 – 105)	80.5 (63 – 108)	- 3.45	< .001
Psychological Openness Subscale (0 – 32)	21.5 (7 – 32)	26.0 (5 – 32)	- 3.63	< .001
Help-Seeking Propensity Subscale (0 – 32)	26.0 (19 – 32)	28.0 (19 – 32)	- 1.91	.057
Stigma Indifference Subscale (0 – 32)	25.0 (14 – 28)	24.0 (12 – 28)	- .306	.760
BAPS (18 – 108)	85.0 (30 – 105)	93.0 (63 – 108)	- 3.01	.003
Intent Subscale (6 – 36)	26.0 (6 – 36)	31.5 (18 – 36)	- 2.21	.027
Stigma Tolerance Subscale (8 – 48)	42.0 (17 – 48)	43.0 (31 – 48)	- 1.99	.047
Expertness Subscale (4 – 24)	18.0 (7 – 24)	20.0 (9 – 24)	- 3.07	.002
KPPD (0 – 17)	11.5 (7 – 15)	14 (7 – 17)	- 3.25	.001

Summary

This chapter presented the results of a single group, pre-test post-test, quasi-experimental, pilot study that examined the feasibility of an antenatal educational intervention. A description of participants' characteristics, findings from the questionnaires, and results of the research questions and hypotheses were reported. In this small sample of pregnant women, stigmatizing views towards seeking psychological help were significantly decreased while knowledge of PPD and willingness to seek psychological help were significantly increased following the brief educational intervention. Discussions of the findings in this study will be included in Chapter V.

CHAPTER V

DISCUSSION AND CONCLUSIONS

The purpose of this pre-test, post-test, one group study was pilot testing an educational intervention about PPD in pregnant women to determine if the structured educational intervention would result in decreased stigma towards seeking psychological help, increased knowledge of PPD, and increased willingness to seek help. This research is important because it is one of only a few studies designed to address barriers to help-seeking behavior for PPD, and preintervention data suggests the intervention was needed among this population as evidence by stigmatizing beliefs regarding help-seeking and deficiencies in knowledge of PPD. This chapter presents a discussion of the study's findings, conclusions, strengths, limitations, and implications for future research and clinical practice.

Efficacy of Intervention

A modified version of the health belief model (HBM) was used for the development and implementation of the online educational intervention in this study. Based on the model concepts, it was hypothesized that pregnant women who receive a brief educational intervention will report less stigmatizing views towards seeking psychological help for PPD, increased knowledge of PPD,

and increased willingness to seek psychological help after the intervention as compared to before the intervention. The hypotheses were supported.

Perceived Stigma

Stigma surrounding PPD continues to be a major barrier to help-seeking behavior among postpartum women (Elliot et al., 2020; Hansotte et al., 2017; Kilgoe, 2021). The current study examined participants' stigmatizing views before and after the educational intervention and aimed to improve participants' views of seeking psychological help for PPD. Findings from the BAPS demonstrate a significant improvement in participants' stigma tolerance for seeking psychological help after the intervention. Based on the IASMHS and BAPS total scores, participants' overall attitudes towards seeking psychological help were also significantly improved following the intervention. These findings are consistent with where stigma is lessened following educational interventions.

In examining the indifference to stigma subscale, the change in participants' indifference to stigma on the IASMHS after the intervention did not reach a level of statistical significance. This finding may be due to a slight difference in factors being measured between the two scales. Stigma tolerance refers to one's negative beliefs regarding seeking psychological help (Aegisdottir & Gerstein, 2009). However, indifference to stigma reflects how concerned one is about others finding out that they are seeking psychological help (Mackenzie et al., 2004). These finding indicate that participants' stigma regarding seeking psychological help was improved, but their beliefs about how others will view them when seeking psychological help did not improve.

Research has shown that women are more likely to seek psychological help for PPD when supported by their significant other (Iturralde et al., 2021; Prevatt & Desmarais, 2018; Silva et al., 2018). Significant others who were found to have less stigmatizing views of PPD were more likely to recommend seeking help for PPD (Branquinho et al., 2020). The possible inclusion of support people in educational interventions regarding PPD is discussed under suggestions for future research.

Lack of Knowledge

Despite recommendations emphasizing the importance of PPD education and treatment, lack of knowledge regarding PPD continues to be a major barrier to help-seeking behavior (Beasley, 2020). Due to lack of knowledge, women are unaware of the signs and symptoms of PPD; therefore, they do not seek psychological help (21; Fonseca et al., 2015; Guy et al., 2014; Hadfield & Wittkowski, 2017; Henshaw et al., 2016; Newman et al., 2019). Research has shown that many women who suffered from PPD thought their feelings were a normal part of adjusting to motherhood (Cacciola & Psouni, 2020; Hansotte et al., 2017).

A goal of the present study was to increase women's knowledge of PPD by implementing an online educational intervention based on constructs of the HBM. The participants' knowledge of PPD was moderate prior to the educational intervention. When comparing pre and post intervention changes, scores for the KPPD were higher after the educational intervention. The intervention may be responsible for these changes. When developing the intervention, the student PI

included various aspects related to lack of knowledge of PPD found throughout the literature.

There is limited literature examining knowledge of PPD in any population. However, Beasley et al. (2021) examined knowledge of antepartum depression in medical and nurse practitioner students and reported significantly increased knowledge scores after a very brief educational intervention. These findings are consistent with previous research which found that mental health literacy was significantly improved following an educational intervention in high school students (Liddle et al., 2021), college students (Aegisottir et al., 2011), and educators (Wei et al., 2020).

Willingness to Seek Help

PPD responds best to treatment and results in fewer maternal and infant complications when diagnosed early (American College of Obstetricians and Gynecologists, 2018); however, many women suffering from PPD wait until crisis point to seek psychological help, if they seek help at all (Foulkes, 2011; Rai et al., 2015). Research has found that this lack of help-seeking or willingness to seek help is often contributed to perceived stigma and lack of knowledge regarding PPD (Bina, 2020; Cacciola & Psouni, 2020; Newman et al., 2019). Studies have shown that education on PPD is needed to increase women's help-seeking behavior (Manso-Cordoba, 2020; Smith et al., 2019). Based on findings from Johnson et al. (2020), encouraging women to seek psychological help without providing education on PPD is not sufficient to increase women's willingness to seek psychological help. In the current study, baseline data indicated that

participants' willingness to seek psychological help for PPD was moderate. Following the educational intervention, participants' total scores on the IASMHS and BAPS indicated that attitude and overall willingness to seek help significantly improved.

Although participants' willingness and intent to seek psychological help was significantly improved after the intervention, their change in help-seeking propensity did not result in significant improvement. This finding is consistent with previous literature demonstrating that an educational intervention had no effect on women's help-seeking propensity (Thorsteinsson et al., 2018). Help seeking propensity differs from intent to seek help (Aegisdottir & Gerstein, 2009; Mackenzie et al., 2004) and may explain this lack of significance. The current study indicates that participants are more willing to seek help following the intervention, but they do not feel they have the ability to actually seek help. Information regarding intervention modifications to address help seeking propensity is discussed under suggestions for future research.

Feasibility of the Intervention

Findings previously discussed suggest this intervention may be feasible with minor changes to the methodology. Feasibility and is examined in relation to strengths and limitations of the study.

Strengths

This pilot study provided valuable information about the preliminary efficacy and feasibility of an online educational intervention regarding PPD. Currently, there are no other educational interventions in the literature aimed at

increasing knowledge of PPD, decreasing perceived stigma, and increasing willingness to seek help. This study was also unique in that the sample consisted of pregnant women ranging from 13 to 40 weeks gestation rather than postpartum women. This is important due to the negative maternal and child effects that can occur as a result of PPD. In order to improve treatment success and decrease negative effects, PPD must be diagnosed and treated in a timely manner (American College of Obstetricians and Gynecologists, 2018). If education on PPD occurs at all, it is typically completed upon discharge from the postpartum unit when women are overwhelmed and sleep deprived (McCarter-Spaulding & Shea, 2016). PPD can be treated earlier if women are aware of signs and symptoms to look for prior to childbirth. The online format was also a strength of the study by allowing women to complete the intervention at their own pace and at a time and location of their choice.

Limitations

Since this is the first educational intervention to address stigma, knowledge, and help-seeking behavior associated with PPD, the pilot study findings are valuable and give insight into areas of future research needed for this population. Although, useful information has been obtained from this study, there are some limitations that should be considered. Some of these limitations include convenience sampling, sample size, and intervention development.

Sample

Convenience sampling was used to recruit participants for this study. Participants were recruited from a small OBGYN office in Opelika, AL and via

social media. Although social media was used, participants were located in the same geographic area. This method of recruitment affected the external validity of the study and the generalizability of the results to individuals living in other areas of the country. Demographically, participant characteristics were consistent with the geographical location of the study with the exception for ethnicity. Future studies need to include a more diverse racial and ethnic population. Publishing the intervention in different languages can also help increase recruitment and diversity among participants.

The small sample size was also a limitation of the study. Social media was added as a means of recruitment to increase the sample size. The addition of social media increased the number of participants but not as much as anticipated. However, a small sample size is expected in a pilot study. Future studies could benefit by including additional recruitment sites such as larger OBGYN practices and the health department.

Intervention

Ample resources were available to develop the intervention implemented in the current study. However, to increase participant engagement, future studies could obtain computer software that would allow the addition of learning activities that require responses throughout the intervention.

Study design

Another limitation of this study was the use of a one-group pretest-posttest design. This design does not allow assumptions of causality because a control or comparison group was not utilized. The lack of a control or comparison group

made it difficult to determine if the change in scores was due to a practice effect or a treatment effect.

The internal consistency of two of the subscales on the IASMHS were also a limitation of the study and may have accounted for lack of statistical significance. The Cronbach alphas for the indifference to stigma subscale and the help-propensity subscale were below the acceptable level of .70 in this population of pregnant women. However, in the literature, the internal consistency for both subscales was acceptable.

Implications

It is estimated that only 15% of women who have PPD seek psychological help (Corrigan et al., 2015; Fonseca et al., 2015). When untreated, PPD can persist for years and result in long-term adverse outcomes in the mother and child (Brazier, 2019; Garza, 2018; Putnick et al., 2020). However, the early diagnosis and treatment of PPD has been found to prevent or reduce negative maternal and child effects (American College of Obstetricians and Gynecologists, 2018). The findings from this pilot study have important implications for clinical practice, education, and future research regarding PPD.

Clinical Practice

The American College of Obstetricians and Gynecologists (2018) recommends all pregnant women receive education on PPD prior to the delivery of their child. However, many women deny receiving any information or education on PPD throughout the duration of their pregnancy and postpartum period (Byatt et al., 2013a; Hannan, 2016). The findings from this study can

assist obstetrical providers or nurses in the development of interventions or programs that address help-seeking behavior in women with PPD.

Many healthcare providers do not discuss PPD with their patients due to time constraints (Wittenburg et al., 2018). An online intervention such as the one in the current study allows providers to educate their patients about PPD without the use of additional time. It also ensures that all patients receive thorough and consistent information about all aspects of PPD, treatment, and help-seeking. Since the intervention requires internet access, providers may want to explore options for patients who do not have access to the internet. Allowing patients to utilize Wi-Fi while at their office and dedicating two or three tablets for intervention use may be feasible options to ensure that the lack of internet or mobile devices does not serve as a barrier to PPD education.

Education

PPD is one of the most under recognized and underdiagnosed conditions in the postpartum period (Beasley, 2021). Research shows there is a lack of patient education regarding PPD during the prenatal and postpartum periods (American College of Obstetricians and Gynecologists, 2018; Byatt et al., 2013a; Hannan, 2016). This lack of patient education may be partially due to a lack of knowledge regarding PPD among providers and nurses. Limited knowledge of PPD among healthcare professionals was identified as a main barrier to patient education, diagnosis, and treatment of PPD (Beasley, 2021; Docherty et al., 2020; Ransing et al., 2020; Zielinksi, 2021). Nurses and providers reported feeling uncomfortable educating patients about PPD due to their own lack of

knowledge about the subject (Beasley, 2021; Zielinski, 2021). This lack of knowledge also prevented providers from diagnosing and treating patients with PPD (Beasley, 2021; Byatt et al., 2013a; Docherty et al.,2020; Ransing et al., 2020). Research suggests that removing this barrier, by providing PPD education to healthcare professionals, has the potential to enhance prenatal and postpartum care (Beasley, 2021). Therefore, in addition to educating pregnant women, there is also a need to educate nurses and providers regarding PPD. In order to address this need, PPD education should be included in annual competencies that are required for providers and nurses. The implementation of the intervention presented in this study could serve to meet this competency.

However, providers and nurses could benefit more patients if PPD education was introduced in their didactic studies. Incorporating a slightly modified version of the current intervention into medical and nursing school curricula has the potential to increase students' knowledge of PPD before they begin clinical practice.

Research

This pilot study significantly decreased pregnant women's stigmatizing views towards seeking psychological help while increasing their knowledge of PPD and their willingness to seek help. However, the small sample size decreased the generalizability of these findings. Therefore, it is suggested that future studies include larger sample sizes. The use of a control group in future studies is also recommended to increase internal validity. Additionally,

conducting follow-up surveys with participants regarding their actual help-seeking behavior would be beneficial in assessing reliability of the study findings.

Although, the study variables were significantly improved following the intervention, revisions are warranted for future research. Participants' intent or willingness to seek help improved; however, their ability to seek help did not improve. This is most likely due to the limited information about how to seek help in the intervention. The intervention included where to receive help locally and online; however, additional information such as how to decide who to contact based on specific circumstances and what to say when seeking an appointment may increase women's help-seeking propensity.

Participants' stigma tolerance was also significantly improved following the intervention. Conversely, the change in their indifference to stigma scores was not statistically significant suggesting that the participants would be concerned if others found out they were seeking psychological help. This finding is consistent with previous literature indicating that women's significant others have a major impact on their help-seeking behavior (Prevatt & Desmarais, 2018; Silva et al., 2017). Significant others' acceptance and less stigmatizing views were found to be a facilitator of help-seeking behavior among women with PPD (Feely et al., 2016; Henshaw et al., 2013). Future interventions should be developed to include women's significant others and/or support persons in an attempt to improve women's indifference to stigma and help-seeking behavior for PPD.

Conclusion

Perceived stigma and lack of knowledge regarding PPD have been shown to prevent women from seeking psychological help for the treatment of PPD. When PPD is untreated, it can negatively affect the mother and her child in various ways. However, prompt diagnosis and treatment has been shown to significantly decrease these negative effects (American College of Obstetricians and Gynecologists, 2016a; National Institute of Mental Health, 2017; Rafferty et al., 2019). The findings in this study add to the limited body of knowledge examining help-seeking behavior for PPD. This was the first known study that aimed to decrease stigma towards seeking psychological help for PPD while increasing knowledge of PPD and willingness to seek help in pregnant women. This study demonstrated the efficacy of an online educational intervention in decreasing stigma and increasing knowledge and willingness to seek help for PPD. Implementation of this educational intervention with minor changes on a larger scale is merited.

REFERENCES

Abraham-Smith, K., & Keville, S. (2015). The influence of women's perceived entitlement to have postnatal depression on the disclosure process. *Journal of Midwifery*, *23*(12), 854-860. doi:10.12968/bjom.2015.23.12.854

Adams, A., Hall, M., & Fulghum, J. (2014). Utilizing the Health Belief Model to assess vaccine acceptance of patients on hemodialysis. *Nephrology Nursing Journal, 41*(4), 393–407.2

Ægisdóttir, S., & Gerstein, L. H. (2009). Beliefs about psychological services (BAPS): Development and psychometric properties. *Counseling Psychology Quarterly*, *22*(2), 197-219. doi:10.1080/09515070903157347

Ægisdóttir, S., O'Heron, M. P., Hartong, J. M., Haynes, S. A., & Linville, M. K. (2011). Enhancing attitudes and reducing fears about mental health counseling: An analogue study. *Journal of Mental Health Counseling, 33*(4), 327–346.

American College of Obstetricians and Gynecologists. (2016a). *ACOG statement on house committee on energy and commerce approval of mental health reform legislation*. Retrieved from http://www.acog.org/About-ACOG/News Room/Statements/2016/ ACOG-Statement-on-House-Committee-on-Energy-and-Commerce-Passage-of-Mental-Health-Reform-Legislation

American College of Obstetricians and Gynecologists. (2015). *Depression and postpartum depression: Resource overview*. Retrieved from https://www.acog.org/Womens-Health/Depression-and-Postpartum-Depression?IsMobileSet=false

American College of Obstetricians and Gynecologists. (2013). *Postpartum depression frequently asked questions.* Retrieved from https://www.acog.org/Patients/FAQs/Postpartum-Depression?IsMobileSet=false

American College of Obstetricians and Gynecologists. (2018). *Screening for perinatal depression.* https://www.acog.org/Clinical-Guidance-and-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Screening-for-Perinatal-Depression?IsMobileSet=false

American College of Obstetricians and Gynecologists. (2016b*). Statement on depression screening*. https://www.acog.org/About-ACOG/News-Room/Statements/2016/ACOG-Statement-on-Depression-Screening?IsMobileSet=false

American Psychiatric Association. (2017). *What is postpartum depression?* Retrieved from https://www.psychiatry.org/patients-families/postpartum-depression/what-is-postpartum-depression

American Psychological Association. (2019). *What is postpartum depression and anxiety?* https://www.apa.org/pi/women/resources/reports/postpartum-depression

Barry, T. J., Murray, L., Fearon, R. M. P., Moutsiana, C., Cooper, P., Goodyer, I. M., & Halligan, S. L. (2015). Maternal postnatal depression predicts altered offspring biological stress reactivity in adulthood. *Psychoneuroendocrinology, 52*(1), 251–260. https://doi.org/10.1016/j.psyneuen.2014.12.003

Bass, P. F., & Bauer, N. S. (2018). Parental postpartum depression: More than "baby blues." *Contemporary Pediatrics, 35*(9), 35–38.

Beasley, D. R. (2021). An online educational intervention to influence medical and nurse practitioner students' knowledge, self-efficacy, and motivation for antepartum depression screening and education. *Nursing for Women's Health, 25*(1), 43–53. https://doi.org/10.1016/j.nwh.2020.11.004

Beasley, D. R. (2020). The importance of maternal antepartum depression screening and education: A narrative review of the literature. *Journal of Psychosocial Nursing and Mental Health Services, 58*(10), 19–23. https://doi.org/10.3928/02793695-20200624-06

Bell, L., Feeley, N., Hayton, B., Zelkowitz, P., Tait, M., & Desindes, S. (2016). Barriers and facilitators to the use of mental health services by women with elevated symptoms of depression and their partners. *Issues in Mental Health Nursing*, *37*(9), 651-659. https://doi.org/10.1016/10.1080/01612840.2016.1180724

Behrendt, H., Konrada, K., Goeckeb, T., Fakhrabadib, R., Herpertz-Dahlmanna, B., & Firka, C. (2016). Postnatal mother-to-infant attachment in subclinically depressed mothers: Dyads at risk? *Psychopathology, 49*(4), 269-276. https://doi.org/10.1016/10.1159/000447597

Bembich, S., Vecchiet, C., Cont, G., Sustersic, C., Valencak, F., & Demarini, S. (2016). Maternal cortical response to baby pain and postpartum depressive symptoms. *Biological Psychology, 121*(Part A), 12–18. https://doi.org/10.1016/10.1016/j.biopsycho.2016.10.001

Bina, R., & Glasser, S. (2019). Factors associated with attitudes toward seeking mental health treatment postpartum. *Women & Health, 59*(1), 1–12. https://doi.org/10.1080/03630242.2017.1421286

Bodnar-Deren, S., Benn, E., Balbierz, A., & Howell, E. (2017). Stigma and postpartum depression treatment acceptability among black and white women in the first six-months postpartum. *Maternal & Child Health Journal, 21*(7), 1457–1468. https://doi.org/10.1016/10.1007/s10995-017-2263-6

Bodnar-Deren, S., Klipstein, K., Fersh, M., Shemesh, E., & Howell, E. A. (2016). Suicidal ideation during the postpartum period. *Journal of Women's Health, 25*(12), 1219–1224.https://doi.org/10.1016/10.1089/jwh.2015.5346

Branquinho, C., Kelly, C., Arevalo, L. C., Santos, A., & Gaspar de Matos, M. (2020). "Hey, we also have something to say": A qualitative study of Portuguese adolescents' and young people's experiences under COVID-19. *Journal of Community Psychology, 48*(8), 2740–2752. https://doi.org/10.1002/jcop.22453

Brazier, Y. (2019). *How long does postpartum depression last?* https://www.medicalnewstoday.com/articles/271217

Button, S., Thornton, A., Lee, S., Shakespeare, J., & Ayers, S. (2017). Seeking help for perinatal psychological distress: A meta-synthesis of women's experiences. *The British Journal of General Practice, 67*(663), 692–699. https://doi.org/10.1016/10.3399/bjgp17X692549

Byatt, N., Biebel, K., Friedman, L., Debordes-Jackson, G., Ziedonis, D., & Pbert, L. (2013a). Patients' views on depression care in obstetric settings: How do they compare to the views of perinatal health care professionals. *General Hospital Psychiatry*, *35*(6), 598-604. https://doi.org/10.1016/:10.1016/j.genhosppsych.2013.07.011

Byatt, N., Biebel, K., Friedman, L., Debordes-Jackson, G., & Ziedonis, D. (2013b). Women's perspectives on postpartum depression screening in pediatric settings: A preliminary study. *Archives of Women's Mental Health, 16*(5), 429-432. https://doi.org/10.1016/10.1007/s00737-013-0369-4

Cacciola, E., & Psouni, E. (2020). Insecure attachment and other help-seeking barriers among women depressed postpartum. *International Journal of Environmental Research and Public Health, 17*(11). https://doi.org/10.3390/ijerph17113887

Centers for Disease Control and Prevention. (2018). *Births: Final data for 2016*. https://www.cdc.gov/nchs/data/nvsr/nvsr67/nvsr67_01.pdf

Centers for Disease Control and Prevention. (2018). *Depression during and after pregnancy*. https://www.cdc.gov/features/maternal-depression/index.html

Corrigan, C. P., Kwasky, A. N., & Groh, C. J. (2015). Social support, postpartum depression, and professional assistance: A survey of mothers in the Midwestern United States. *The Journal of Perinatal Education*, *24*(1), 48-60. https://doi.org/10.1016/10.1891%2F1058-1243.24.1.48

Dardis, M. R., Koharchik, L. S., & Dukes, S. (2015). Using the Health Belief

Model to develop educational strategies to improve pertussis vaccination rates among preschool staff. *NASN School Nurse, 30*(1), 20–25. https://doi.org/10.1016/10.1177/1942602X14549256

Docherty, A., Najjar, R., Combs, S., Woolley, R., & Stoyles, S. (2020). Postpartum depression screening in the first year: A cross-sectional provider analysis in Oregon. *Journal of the American Association of Nurse Practitioners, 32(*4), 308–315. https://doi.org/10.1097/JXX.0000000000000250

Drake, E., Howard, E., & Kinsey, E. (2014). Online screening and referral for postpartum depression: An exploratory study. *Community Mental Health Journal*, *50*(3), 305-311. https://doi.org/10.1016/10.1007/s10597-012-9573-3

Dunford, E., & Granger, C. (2017). Maternal guilt and shame: Relationship to postnatal depression and attitudes towards help-seeking. *Journal of Child & Family Studies, 26*(6), 1692-1701. https://doi.org/10.1016/10.1007/s10826-017-0690-z

Dwanyen, L., & Hans, J. (2017). Postpartum depression: Novel use of video-based interventions. *Journal of Prenatal & Perinatal Psychology & Health* interventions. *Journal of Prenatal & Perinatal Psychology & Health, 32*(2), 128–148.

Elliott, G., Millard, C., & Sabroe, I. (2020). The utilization of cultural movements to overcome stigma in narrative of postnatal depression. *Frontiers in Psychiatry,* 11. https://doi.org/10.3389/fpsyt.2020.532600

Feeley, N., Bell, L., Hayton, B., Zelkowitz, P., & Carrier, M. (2016). Care for postpartum depression: What women and their partners prefer? *Perspectives in Psychiatric Care*, *52*(2), 120-130. https://doi.org/10.1016/10.1111/ppc.12107

Fonseca, A., & Canavarro, M. C. (2017). Women's intentions of informal and formal help-seeking for mental health problems during the perinatal period: The role of perceived encouragement from the partner. *Midwifery, 50*(1), 78–85. https://doi.org/10.1016/10.1016/j.midw.2017.04.001

Fonseca, A., Gorayeb, R., & Canavarro, M. (2015). Women's help-seeking behaviors for depressive symptoms during the perinatal period: Socio-demographic and clinical correlates and perceived barriers to seeking professional help. *Midwifery*, *31*(12), 1177-1185. https://doi.org/10.1016/10.1016/j.midw.2015.09.002

Fonseca, A., Silva, S., & Canavarro, M. C. (2017). Depression literacy and awareness of psychopathological symptoms during the perinatal period. *Journal of Obstetric, Gynecologic, & Neonatal Nursing, 46*(2), 197–208. https://doi.org/10.1016/10.1016/j.jogn.2016.10.006

Foulkes, M. (2011). Enablers and barriers to seeking help for a postpartum mood disorder. *Journal of Obstetric, Gynecologic, & Neonatal Nursing, 40*(4), 450-457. https://doi.org/10.1016/10.1111/j.1552-6909.2011.01264.x.

Freed, R. D., Chan, P. T., Boger, K. D., & Tompson, M. C. (2012). Enhancing maternal depression recognition in health care settings: A review of strategies to improve detection, reduce barriers, and reach mothers in

need. *Families, Systems, & Health, 30*(1), 1-18. https://doi.org/10.1016/10.1037/a0027602

Garza, A. (2018). *Postpartum depression and its long-term effects on children.* https://www.pharmacytimes.com/view/patient-focus-postpartum-depression-and-its-longterm-effects-on-children

Goodman, S. H., Rouse, M. H., Connell, A. M., Broth, M. R., Hall, C. M., & Heyward, D. (2011). Maternal depression and child psychopathology: A meta-analytic review. *Clinical Child and Family Psychology Review*, *14*(1), 1-27. https://doi.org/10.1016/10.1007/s10567-010-0080-1

Gray, J., Grove, S., & Sutherland, S. (2017). *Burns and Grove's the practice of nursing research appraisal, synthesis, and generation of evidence* (8th ed.). St. Louis, MO: Elsevier.

Griffiths, K., Christensen, H., Jorm, A., Evans, K., & Groves, C. (2004). Effect of web-based depression literacy and cognitive–behavioural therapy interventions on stigmatising attitudes to depression: Randomised controlled trial. *British Journal of Psychiatry, 185*(4), 342-349. https://doi.org/10.1016/10.1192/bjp.185.4.342

Gulliver, A., Griffiths, K. M., Christensen, H., Mackinnon, A., Calear, A. L., Parsons, A., & Stanimirovic, R. (2012). Internet-based interventions to promote mental health help-seeking in elite athletes: An exploratory randomized controlled trial. *Journal of Medical Internet Research, 14*(3), e69. https://doi.org/10.1016/10.2196/jmir.1864

Guy, S., Sterling, B. S., Walker, L. O., & Harrison, T. C. (2014). Mental health literacy and postpartum depression: A qualitative description of views of lower income women. *Archives of Psychiatric Nursing, 28*(4), 256-262. https://doi.org/10.1016/10.1016/j.apnu.2014.04.001

Hadfield, H., & Wittkowski, A. (2017). Women's experiences of seeking and receiving psychological and psychosocial interventions for postpartum depression: A systematic review and thematic synthesis of the qualitative literature. *Journal of Midwifery & Women's Health, 62*(6), 723–736. https://doi.org/10.1016/10.1111/jmwh.12669

Haga, S. M., Lynne, A., Slinning, K., & Kraft, P. (2012). A qualitative study of depressive symptoms and well-being among first-time mothers. *Scandinavian Journal of Caring Sciences, 26*(3), 458-466. https://doi.org/10.1016/10.1111/j.1471-6712.2011.00950.x

Hannan, J. (2016). Older mothers' experiences of postnatal depression. *British Journal of Midwifery*, *24*(1), 1-9. https://doi.org/10.1016/10.12968/bjom.2016.24.1.28

Hansotte, E., Payne, S. I., & Babich, S. M. (2017). Positive postpartum depression screening practices and subsequent mental health treatment for low-income women in Western countries: A systematic literature review. *Public Health Reviews, 38*(1), 1–17. https://doi.org/10.1186/s40985-017-0050-y

Henshaw, E. J., Durkin, K. M., & Snell, R. J. (2016). First-time parents' shared representation of postpartum depressive symptoms: A qualitative analysis.

Social Science and Medicine, *160*(1), 102-110. https://doi.org/10.1016/10.1016/j.socscimed.2016.05.025

Henshaw, E., Sabourin, B., & Warning, M. (2013). Treatment-seeking behaviors and attitudes survey among women at risk for perinatal depression or anxiety. *Journal of Obstetric, Gynecologic, and Neonatal Nursing*, *42*(2), 168-177. https://doi.org/10.1016/10.1111/1552-6909.12014

Hermannsdóttir, B. S., & Ægisdóttir, S. (2016). Spirituality, connectedness, and beliefs about psychological services among Filipino immigrants in Iceland. *Counseling Psychologist, 44(*4), 546–572. https://doi.org/10.1016/10.1177/0011000016639146

Howard L., Flach C., Mehay A., Sharp D., & Tylee A. (2011). The prevalence of suicidal ideation identified by the Edinburgh Postnatal Depression Scale in postpartum women in primary care: Findings from the RESPOND trial. *Biomedical Central Pregnancy and Childbirth, 11*(1), 57-67. https://doi.org/10.1016/10.1186/1471-2393-11-57

Hyland, P., Boduszek, D., Dhingra, K., Shelvin, M., Maguire, R., & Morley, K. (2015). A test of the inventory of attitudes towards seeking mental health services. *British Journal of Guidance and Counseling*, *43*(4), 397-412. https://doi.org/10.1016/10.1080/03069885.2014.963510

Iturralde, E., Hsiao, C., Nkemere, L., Kubo, A., Sterling, S., Flanagan, T., & Avalos, L. (2021). Engagement in perinatal depression treatment: A qualitative study of barriers across and within racial/ethnic groups. *BMC*

Pregnancy and Childbirth, 21(1), 1–11. https://doi.org/10.1186/s12884-021-03969-1

Janz, N. K., & Becker, M. H. (1984). The health belief model: A decade later. *Health Education Quarterly*, *11*(1), 1-47.

Johnson, S., Adam, S., & McIntosh, M. (2020). The lived experience of postpartum depression: A review of the literature. *Issues in Mental Health Nursing, 41*(7), 584–591. https://doi.org/10.1080/01612840.2019.1688437

Jones, T. V. (2015). Predictors of perceptions of mental illness and averseness to help: A survey of elite football players. *Journal of Mental Health*, *24*(1), 1-6. https://doi.org/10.1016/10.3109/09638237.2015.1124384

Khan, M. J., Batool, S. S., & Saqib, T. (2014). Maternal depression: A risk factor of childhood mental illness. *FWU Journal of Social Sciences*, *8*(1), 24-30.

Kilgoe, A. (2021). *Addressing the increased risk of postpartum depression for black women*. https://www.nami.org/Blogs/NAMI-Blog/July-2021/Addressing-the-Increased-Risk-of-Postpartum-Depression-for-Black-Women

Kingston, D., Austin, M., Heaman, M., McDonald, S., Lasiuk, G., Sword, W., ... Biringer, A. (2015a). Barriers and facilitators of mental health screening in pregnancy. *Journal of Affective Disorders, 186*(1), 350-357. https://doi.org/10.1016/10.1016/j.jad.2015.06.029

Kingston, D. E., Biringer, A., Toosi, A., Heaman, M. I., Lasiuk, G. C., McDonald, S. W., & Austin, M. (2015b). Disclosure during prenatal mental health

screening. *Journal of Affective Disorders, 186*(1), 90-94. https://doi.org/10.1016/10.1016/j.jad.2015.07.003

Kingston, D., & Tough, S. (2014). Prenatal and postnatal maternal mental health and school-age child development: A systematic review. *Maternal & Child Health Journal, 18*(7), 1728–1741. https://doi.org/10.1016/10.1007/s10995-013-1418-3

Kiropoulos, L. A., Griffiths, K. M., & Blashki, G. (2011). Effects of a multilingual information website intervention on the levels of depression literacy and depression-related stigma in Greek-Born and Italian-Born immigrants living in Australia: A randomized controlled trial. *Journal of Medical Internet Research, 13*(2), 4. https://doi.org/10.1016/10.2196/jmir.1527

Koter-Puline, A. (2012). *Postpartum depression*. https://www.webmd.com/depression/video/dealing-with-postpartum-depression

Laurent, H. K., & Ablow, J. C. (2012). A cry in the dark: Depressed mothers show reduced neural activation to their own infant's cry. *Social Cognitive & Affective Neuroscience, 7*(2), 125–134. https://doi.org/10.1016/10.1093/scan/nsq091

Lefkovics, E., Rigó, J., Szita, B., Kecskeméti, A., Kovács, I., Talabér, J., & Szabó, L. (2018). Effect of maternal depression and anxiety on mother's perception of child and the protective role of social support. *Journal of Reproductive & Infant Psychology, 36*(4), 434–448. https://doi.org/10.1016/10.1080/02646838.2018.1475726

Letourneau, N. L., Dennis, C.-L., Benzies, K., Duffett-Leger, L., Stewart, M.,

Tryphonopoulos, P. D., & Watson, W. (2012). Postpartum depression is a family affair: Addressing the impact on mothers, fathers, and children. *Issues in Mental Health Nursing, 33*(7), 445–457. https://doi.org/10.1016/10.3109/01612840.2012.673054

Liddle, S. K., Deane, F. P., Batterham, M., & Vella, S. A. (2021). A brief sports-based mental health literacy program for male adolescents: A cluster-randomized controlled trial. *Journal of Applied Sport Psychology, 33*(1), 20–44.

Loke, A. Y., Davies, L., & Li, S. (2015). Factors influencing the decision that women make on their mode of delivery: The Health Belief Model. *Biomed Central Health Services Research, 15*(1), 1–12. https://doi.org/10.1016/10.1186/s12913-015-0931-z

Mackenzie, C. S., Knox, V. J., Gekoski, W. L., & Macaulay, H. L. (2004). An adaptation and extension of the attitudes toward seeking professional psychological help scale. *Journal of Applied Social Psychology*, *34*(11), 2410-2435. https://doi.org/10.1016/10.1111/j.1559-1816.2004.tb01984.x

Madlala, S., & Kassier, S. (2018). Antenatal and postpartum depression: Effects on infant and young child health and feeding practices. *South African Journal of Clinical Nutrition, 31*(1), 1–7. https://doi.org/10.1016/10.1080/16070658.2017.1333753

Maiman, L., & Becker, M. (1974). The health belief model: Origins and correlates in psychological theory. *Health Education Monographs*, *2*(4), 336-353.

Maimburg, R. D., & Vaeth, M. (2015). Postpartum depression among first-time mothers: Results from a parallel randomised trial. *Sexual & Reproductive Healthcare*, *6*(2), 95-100. https://doi.org/10.1016/10.1016/j.srhc.2015.01.003

Makarova, A., Orlovska, M., Katšena, L., & Raščevska, M. (2013). Internal consistency and factorial validity of the Beliefs about Psychological Services [BAPS] Scale in Latvia. *Baltic Journal of Psychology, 14*(2), 92-105.

Manso-Córdoba, S., Pickering, S., Ortega, M. A., Asúnsolo, Á., & Romero, D. (2020). Factors related to seeking help for postpartum depression: A secondary analysis of New York City PRAMS Data. *International Journal of Environmental Research and Public Health, 17*(24). https://doi.org/10.3390/ijerph17249328

March of Dimes. (2019). *Postpartum depression*. https://www.marchofdimes.org/pregnancy/postpartum-depression.aspx

McArthur, L. H., Riggs, A., Uribe, F., & Spaulding, T. J. (2018). Health Belief Model offers opportunities for designing weight management interventions for college students. *Journal of Nutrition Education and Behavior, 50*(5), 485–493. https://doi.org/10.1016/10.1016/j.jneb.2017.09.010

McCarter-Spaulding, D., & Shea, S. (2016). Effectiveness of discharge education on postpartum depression. *The American Journal of Maternal Child Nursing, 41*(3), 168-172. https://doi.org/10.1016/10.1097/NMC.0000000000000236

McCarty, D. (2016). Transition to parenthood. In D. L. Lowdermilk, S. E. Perry, K. Cashion, K. R. Alden, & E. F. Olshansky (Eds.), *Maternity and women's health care* (11th ed., pp. 502-522). St. Louis, MO: Elsevier.

McWhirter, J. E., & Hoffman-Goetz, L. (2016). Application of the Health Belief Model to U.S. magazine text and image coverage of skin cancer and recreational tanning (2000-2012). *Journal of Health Communication, 21*(4), 424–438. https://doi.org/10.1016/10.1080/10810730.2015.1095819

Mikhail, B. (1981). The health belief model: A review and critical evaluation of the model, research, and practice. *Advances in Nursing Science*, *4*(1), 65-82.

Milgrom, J., Schembri, C., Ericksen, J., Ross, J., & Gemmill, A. W. (2011). Towards parenthood: An antenatal intervention to reduce depression, anxiety and parenting difficulties. *Journal of Affective Disorders*, *130*(3), 385-394. https://doi.org/10.1016/10.1016/j.jad.2010.10.045

Moshki, M., Beydokhti, T., & Cheravi, K. (2014). The effect of educational intervention on prevention of postpartum depression: An application of health locus of control. *Journal of Clinical Nursing, 23*(15), 2256-2263. https://doi.org/10.1016/10.1111/jocn.12505

Munson, M. R., Floersch, J. E., & Townsend, L. (2009). Attitudes toward mental health services and illness perceptions among adolescents with mood disorders. *Child and Adolescent Social Work Journal*, *26*(5), 447-466. https://doi.org/10.1016/10.1007%2Fs10560-009-0174-0

Murray, L., Cooper, P., & Fearon, P. (2014). Parenting difficulties and postnatal depression: Implications for primary healthcare assessment and intervention. *Community Practitioner*, *87*(11), 34-38.

National Institute of Mental Health. (2016). Baby blues or postpartum depression? https://www.youtube.com/watch?v=6kaCdrvNGZw

National Institutes of Health. (2019). *How can I reduce the risk of SIDS?* https://www.nichd.nih.gov/health/topics/sids/conditioninfo/reduce

National Institute of Mental Health. (2017). *Postpartum depression facts*. https://www.nimh.nih.gov/health/publications/postpartum-depression-facts/index.shtml

Newman, T. C., Hirst, J., & Darwin, Z. (2019). What enables or prevents women with depressive symptoms seeking help in the postnatal period? *British Journal of Midwifery, 27(*4), 219–227. https://doi.org/10.12968/bjom.2019.27.4.219

Niegocki, K. L., & Ægisdóttir, S. (2019). College students' coping and psychological help-seeking attitudes and intentions. *Journal of Mental Health Counseling, 41*(2), 144–157. https://doi.org/10.1016/10.17744/mehc.41.2.04

Pawluski, L., Lonstein, S., & Fleming, S. (2017). The neurobiology of postpartum anxiety and depression. *Trends in Neurosciences*, *40*(2), 106-120. https://doi.org/10.1016/10.1016/j.tins.2016.11.009

Phipps, M. G., Raker, C. A., Jocelyn, C. F., & Zlotnick, C. (2013). Randomized controlled trial to prevent postpartum depression in adolescent mothers. *American Journal of Obstetrics and Gynecology*, *208*(3), 192-204. https://doi.org/10.1016/10.1016%2Fj.ajog.2012.12.036

Postpartum Progress (2016). *The statistics.* https://doi.org/10.1016/// postpartumprogress.org/the- facts-about-post partum-depression/

Postpartum Support International. (2019). *Find local support and help*. https://www.postpartum.net/get-help/locations/

Prevatt, B. S., & Desmarais, S. L. (2018). Facilitators and barriers to disclosure of postpartum mood disorder symptoms to a healthcare provider. *Maternal & Child Health Journal, 22*(1), 120–129. https://doi.org/10.1007/s10995-017-2361-5

Putnick, D. L., Sundaram, R., Bell, E. M., Ghassabian, A., Goldstein, R. B., Robinson, S. L., Vafai, Y., Gilman, S. E., & Yeung, E. (2020). Trajectories of maternal postpartum depressive symptoms. *Pediatrics, 146*(5). https://doi.org/10.1542/peds.2020-0857

Rafferty, J., Mattson, G., Earls, M. F., & Yogman, M. W. (2019). Incorporating recognition and management of perinatal depression into pediatric practice. *Pediatrics, 143*(1), 1–9. https://doi.org/10.1016/10.1542/peds.2018-3259

Rai, S., Pathak, A., & Sharma, I. (2015). Postpartum psychiatric disorders: Early diagnosis and management. *Indian Journal of Psychiatry, 57*(2), 216-221. https://doi.org/10.1016/10.4103%2F0019-5545.161481

Ransing, R., Kukreti, P., Raghuveer, P., Mahadevaiah, M., Puri, M., Pemde, H., Karkal, R., Patil, S., Nirgude, A., Kataria, D., Sagvekar, S., & Deshpande, S. N. (2021). Development of a brief psychological intervention for perinatal depression. *Asia-Pacific Psychiatry, 13(*1), 1–9. https://doi.org/10.1111/appy.12436

Reynolds, G. L., Nguyen, H. H., Singh, C. S., Fisher, D. G., Odell, A., & Xandre, P. (2016). Application of the extended health control belief model to predict hepatitis A and B vaccinations. *Public Health Nursing, 33*(5), 430–439. https://doi.org/10.1016/10.1111/phn.12254

Rosenstock, I. M. (1974). Historical origins of the health belief model. *Health Education Monographs*, *2*(4), 328-335.

Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1988). Social learning theory and the health belief model. *Health Education Quarterly*, *15*(2), 175-183.

Rouhi, M., Stirling, C., Ayton, J., & Crisp, E. P. (2019). Women's help-seeking behaviours within the first twelve months after childbirth: A systematic qualitative meta-aggregation review. *Midwifery, 72*(1), 39-49. https://doi.org/10.1016/10.1016/j.midw.2019.02.005

Sadat, Z., Abedzadeh-Kalahroudi, M., Kafaei Atrian, M., Karimian, Z., & Sooki, Z. (2014). The impact of postpartum depression on quality of life in women after child's birth. *Iranian Red Crescent Medical Journal, 16*(2), 1-7. https://doi.org/10.1016/10.5812/ircmj.14995

Sadeghi, R., Hashemi, M., & Khanjani, N. (2018). The impact of educational

intervention based on the health belief model on observing standard precautions among emergency center nurses in Sirjan, Iran. *Health Education Research, 33*(4), 327–335. https://doi.org/10.1016/10.1093/her/cyy020

Scheffler, A., Weichle, T. W., Rezvan, P. H., Comulada, W. S., & Rotheram-Borus, M. J. (2018). Maternal patterns of antenatal and postnatal depressed mood and the impact on child health at 3-years postpartum. *Journal of Consulting & Clinical Psychology, 86*(3), 218–230. https://doi.org/10.1016/10.1037/ccp0000281

Shabibi, P., Zavareh, M. S. A., Sayehmiri, K., Qorbani, M., Safari, O., Rastegarimehr, B., & Mansourian, M. (2017). Effect of educational intervention based on the Health Belief Model on promoting self-care behaviors of type-2 diabetes patients. Electronic Physician, 9(12), 5960–5968. https://doi.org/10.19082/5960

Silva, N. C. da, Bernardo, L. P., Silva, N. C. da, Parente, L. L. T., Souza, C. M. S. C. de, Silva, M. das G. N., & Telles, M. V. L. (2018). The influence of postpartum depression on infant behavior. *Amadeus International Multidisciplinary Journal, 2(*4), 71–76. https://doi.org/10.14295/aimj.v2i4.32

Silva, C. S., Lima, M. C., Sequeira-de-Andrade, L. A. S., Oliveira, J. S., Monteiro, J. S., Lima, N. M. S., Santos, R. M. A. B., & Lira, P. I. C. (2017). Association between postpartum depression and the practice of exclusive breastfeeding in the first three months of life. *Journal de Pediatria, 93*(4), 356–364. https://doi.org/10.1016/j.jped.2016.08.00

Smith, T., Gemmill, A. W., & Milgrom, J. (2019). Perinatal anxiety and depression: Awareness and attitudes in Australia. *International Journal of Social Psychiatry, 65*(5), 378–387. https://doi.org/10.1177/0020764019852656

Spatz, D., & Lessen, R. (2011). *Risks of not breastfeeding*. Retrieved from https://higherlogicdownload.s3.amazonaws.com/ILCA/e3ee2b6e-c389-43de-83ea- f32482f20da5/UploadedImages/Learning/Resources/ Risks%20of% 20Not%20Breastfeeding-FINAL.pdf

Spengler, E. S., & Ægisdóttir, S. (2015). Psychological help-seeking attitudes and intentions of lesbian, gay, and bisexual individuals: The role of sexual minority identity and perceived counselor sexual prejudice. *Psychology of Sexual Orientation and Gender Diversity, 2*(4), 482–491. https://doi.org/10.1016/10.1037/sgd0000141

Strecher, V., & Rosenstock, I. (1997). The health belief model. In A. Baum, S. Newman, J. Weinman, R. West, & C. McManus (Eds.), *Cambridge handbook of psychology, health and medicine* (1st ed., pp. 113-117). United Kingdom: Cambridge University Press.

Tahtinen, R. E., & Kristjansdottir, H. (2019). The influence of anxiety and depression symptoms on help-seeking intentions in individual sport athletes and non-athletes: The role of gender and athlete status. *Journal of Clinical Sport Psychology, 13*(1), 134–151.

Tavakkoli, R., Mahmoodi, M., & Attarian, S. (2018). Study the effect of

educational intervention based on the Health Belief Model (HBM) on quality of life among women with gestational diabetes. *Journal of Research in Medical and Dental Science, 6*(2), 245-252.

Thomas, L., Scharp, K., & Paxman, C. (2014). Stories of postpartum depression: Exploring health constructs and help-seeking in mothers' talk. *Women & Health, 54*(4), 373-387. https://doi.org/10.1016/10.1080/03630242.2014.896442

Thorsteinsson, E., Loi, N., & Farr, K. (2018). Changes in stigma and help-seeking in relation to postpartum depression: Non-clinical parenting intervention sample. *Peer Journal, 6*(1), 1-15. https://doi.org/10.1016/10.7717/peerj.5893

Walter, J. P., Yon, K. J., & Skovholt, T. M. (2012). Differences in beliefs about psychological services in the relationship between sociorace and one's social network. *Journal of Counseling & Development, 90*(2), 191–199. https://doi.org/10.1016/10.1111/j.1556-6676.2012.00024.x

Wang, Y., Zang, X.Y., Bai, J., Liu, S.Y., Zhao, Y., & Zhang, Q. (2014). Effect of a Health Belief Model-based nursing intervention on Chinese patients with moderate to severe chronic obstructive pulmonary disease: A randomised controlled trial. *Journal of Clinical Nursing, 23*(9–10), 1342–1353. https://doi.org/10.1016/10.1111/jocn.12394

Wei, Y., Kutcher, S., Baxter, A., & Heffernan, A. (2021). The program evaluation of "Go-To Educator Training" on educators' knowledge about and stigma

toward mental illness in six Canadian provinces. *Early Intervention in Psychiatry, 15*(4), 922–931. https://doi.org/10.1111/eip.13037

Wittenburg, K. T., Camosy, C., Sanford, K., Tran, K., Wise, L., Greendyk, T., & Gallas, M. (2018). Implementation of a postpartum depression screening tool in a pediatric primary care resident clinic. *PEDIATRICS,* 141. https://doi.org/10.1542/peds.141.1_MeetingAbstract.35

Zielinski, V. S. (2021). Recognizing and supporting mothers with postpartum depression in inpatient pediatric units. *Pediatric Nursing, 47*(6), 296–298.

APPENDICES

Appendix A – Participant Characteristics/Demographics

Please select all that apply in each category.

1. Age:
2. Ethnic Group (select all that apply):
    a. _____ White (Caucasian)
    b. _____ Black/African American
    c. _____ Hispanic/Latino
    d. _____ Asian
    e. _____ Other, please specify _____
3. Education: (select highest degree earned)
    a. _____ Some high school
    b. _____ High school graduate
    c. _____ Some college
    d. _____ College graduate
    e. _____ Graduate degree
4. Employment: (select one)
    a. _____ Full-time employment
    b. _____ Part-time employment
    c. _____ Unemployed
5. Marital Status
    a. _____ Married
    b. _____ Divorced

c. _____ Partnered

d. _____ Separated

e. _____ Widowed

f. _____ Single

6. Family Income:

a. _____ Under $15,000

b. _____ $15,000 to $24,999

c. _____ $25,000 to $34,999

d. _____ $35,000 to $49,999

e. _____ $50,000 to $74,999

f. _____ $75,000 to $99,999

g. _____ $100,000 and over

7. Have you ever been diagnosed with a mental illness?

a. _____ Yes

b. _____ No

8. How many times have you been pregnant? _____

9. How many children have you given birth to (vaginal delivery or cesarean section)? _____

Appendix B – Inventory of Attitudes Towards Seeking Mental Health Services (IASMHS)

The term professional refers to individuals who have been trained to deal with mental health problems (e.g., psychologists, psychiatrists, social workers, and family physicians). The term psychological refers to reasons one might visit a professional. Similar terms include mental health concerns, emotional problems, mental troubles, and personal difficulties.

For each item, indicate whether you *disagree* (0), *somewhat disagree* (1), *are undecided* (2), *somewhat agree* (3), or *agree* (4):

	Disagree Agree
1. There are certain problems which should not be discussed outside of one's immediate family…….	[0 1 2 3 4]
2. I would have a very good idea of what to do and who to talk to if I decided to seek professional help for psychological problems……	[0 1 2 3 4]
3. I would not want my significant other (spouse, partner, etc.) to know if I were suffering from psychological problems……	[0 1 2 3 4]
4. Keeping one's mind on a job is a good solution for avoiding personal worries and concerns……..	[0 1 2 3 4]
5. If good friends asked my advice about a psychological problem, I might recommend that they see a professional……..	[0 1 2 3 4]
6. Having been mentally ill carries with it a burden of shame……..	[0 1 2 3 4]
7. It is probably best not to know *everything* about oneself……..	[0 1 2 3 4]
8. If I were experiencing a serious psychological problem at this point in my life, I would be confident that I could find relief in psychotherapy……	[0 1 2 3 4]
9. People should work out their own problems; getting professional help should be a last resort…….	[0 1 2 3 4]
10. If I were to experience psychological problems, I could get professional help if I wanted to……..	[0 1 2 3 4]
11. Important people in my life would think less of me if they were to Find out that I was experiencing psychological problems…….	[0 1 2 3 4]
12. Psychological problems, like many things, tend to work out by Themselves……	[0 1 2 3 4]

13. It would be relatively easy for me to find the time to see a professional for psychological problems…….. [0 1 2 3 4]

14. There are experiences in my life I would not discuss with anyone…. [0 1 2 3 4]

15. I would want to get professional help if I were worried or upset for a long period of time……. [0 1 2 3 4]

16. I would be uncomfortable seeking help for psychological problems because people in my social or business circles might find out about it……. [0 1 2 3 4]

17. Having been diagnosed with a mental disorder is a blot on a person's life……. [0 1 2 3 4]

18. There is something admirable in the attitudes of people who are willing to cope with their conflicts and fears without resorting to professional help……. [0 1 2 3 4]

19. If I believed I were having a mental breakdown, my first inclination would be to get professional help…….. [0 1 2 3 4]

20. I would feel uneasy going to a professional because of what some people would think……. [0 1 2 3 4]

21. People with strong characters can get over psychological problems by themselves and would have little need for professional help….. [0 1 2 3 4]

22. I would willingly confide intimate matters to an appropriate person if I thought it might help me or a member of my family….. [0 1 2 3 4]

23. Had I received treatment for psychological problems, I would not feel that it ought to be "covered up"……. [0 1 2 3 4]

24. I would be embarrassed if my neighbor saw me going into the office of a professional who deals with psychological problems……... [0 1 2 3 4]

Appendix C – Beliefs About Psychological Services (BAPS)

Using the scale below, please check the circle that best represents your views on the following statements.

Strongly Disagree (1) (2) (3) (4) (5) (6) Strongly Agree

1. If a good friend asked my advice about a serious problem, I would recommend that he/she seek professional psychological help. (1) (2) (3) (4) (5) (6)
2. I would be willing to confide my intimate psychological concerns to a psychologists or other health care provider. (1) (2) (3) (4) (5) (6)
3. Seeking professional psychological help is helpful when you are going through a difficult time in your life. (1) (2) (3) (4) (5) (6)
4. At some future time, I might want to seek professional psychological help. (1) (2) (3) (4) (5) (6)
5. I would feel uneasy seeking professional psychological help because of what some people might think. (1) (2) (3) (4) (5) (6)
6. If I believed I was having a serious problem, my first inclination would be to seek professional psychological help. (1) (2) (3) (4) (5) (6)
7. Because of their training, psychologists or other health care providers can help you find solutions to your problems. (1) (2) (3) (4) (5) (6)
8. Seeking professional psychological help means that I am a weak person. (1) (2) (3) (4) (5) (6)
9. Psychologists or other health care providers are good to talk to because they do not blame you for the mistakes you have made. (1) (2) (3) (4) (5) (6)
10. Having sought professional psychological help stigmatizes a person's life. (1) (2) (3) (4) (5) (6)
11. There are certain problems that should not be discussed with a stranger such as a psychologists or other health care providers. (1) (2) (3) (4) (5) (6)
12. I would seek professional psychological help if I was worried or upset for a long period of time. (1) (2) (3) (4) (5) (6)

13. Psychologists or other health care providers make people feel that they cannot deal with their own problems. (1) (2) (3) (4) (5) (6)

14. It is good to talk to someone like a psychologist or other health care providers because everything you say is confidential. (1) (2) (3) (4) (5) (6)

15. Talking about problems with a psychologist or other health care providers strikes me as a poor way to get rid of emotional conflicts. (1) (2) (3) (4) (5) (6)

16. Psychologists or other health care providers provide valuable Advice because of their knowledge about human behavior. (1) (2) (3) (4) (5) (6)

17. It is difficult to talk about personal issues with highly educated people such as psychologists or other health care providers. (1) (2) (3) (4) (5) (6)

18. If I thought I needed psychological help, I would get this help no matter who knew I was receiving this assistance. (1) (2) (3) (4) (5) (6)

Appendix D – Knowledge of Postpartum Depression (KPPD)

The following questions are about your understanding of the symptoms of postpartum depression and the way it can be treated. Please tell me whether the statements below are true or false?

1. If a woman is going to develop postpartum depression, she will experience symptoms of postpartum depression within the first three months after childbirth….True or False

2. Postpartum depression often goes away without treatment….True or False

3. Another term for postpartum depression is the Baby Blues….True or False

4. Women with postpartum depression experience frequent mood changes between happy and sad….True or False

5. In order to develop postpartum depression, a woman must a have a prior history of mental illness….True or False

6. Eating too much or too little is a symptom of postpartum depression …. True or False

7. Postpartum depression is one of the most common medical complications in the postpartum period…True or False

8. Having postpartum depression is often the mother's fault….True or False

9. Postpartum depression can negatively affect one's memory and concentration…True or False

10. One in twenty women will develop postpartum depression ….True or False

11. Antidepressant medications are addictive ….True or False

12. Most women who have postpartum depression are violent….True or False

13. Prenatal vitamins can be used to treat postpartum depression ….True or False

14. Postpartum depression can negatively affect the baby's health….True or False

15. Aches and pains, headaches, and stomach pain are symptoms of postpartum depression….True or False

16. Postpartum depression is always caused by a fluctuation in hormones….True or False

17. The only effective treatment for postpartum depression is antidepressant medication….True or False