A CONVERGENT PARALLEL MIXED METHOD STUDY ON THE EXPERIENCE OF COPING DURING HIGH-RISK PREGNANCY AND PRESCRIBED BED REST

A DISSERTATION

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS

FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

IN THE GRADUATE SCHOOL OF NURSING

TEXAS WOMAN'S UNIVERSITY

COLLEGE OF NURSING

BY

ELLEN BOYD, MSN, FNP-C

DENTON, TEXAS

MAY 2019

DEDICATION

To my Mother who has been a constant source of love and support throughout this process. She believes in the value of education and tells me, “the best is yet to be.”

ACKNOWLEDGMENT

I would like to thank my dissertation chair, Dr. Wyona Freysteinson, for her consistent support. Dr. Freysteinson taught me how to think "outside the box" and to analyze research from a different perspective. To Dr. Carol Wiggs, your support and encouragement has been an immeasurable asset through this dissertation journey. I am appreciative that you participated in this process.

I would also like to thank the members of my dissertation committee Dr. Sandra Cesario and Dr. Joan Edwards. Thank you for your patience and guidance throughout the process. Also, I would like to let the faculty at TWU know that they have guided me to a higher level of thinking. I appreciate their professionalism and patience.

To my siblings, Tom, Gregg, David, Lou Anne, and Laurie, thank you for supporting me through this journey. But most of all you wouldn't let me give up. For that support, I am grateful.

ABSTRACT

ELLEN BOYD

A CONVERGENT PARALLEL MIXED METHOD STUDY ON THE EXPERIENCE OF COPING DURING HIGH-RISK PREGNANCY AND PRESCRIBED BED REST

MAY 2019

Antepartum bed rest and hospitalization is frequently prescribed for high-risk women experiencing pregnancy complications. Bed rest may result in problems for the high-risk mother including isolation, boredom, anxiety, depression, and separation from their families. The aim of this study is to analyze the coping behaviors of high-risk pregnant women hospitalized and prescribed bed rest. Also, to describe the lived experience of high-risk pregnant women hospitalized and prescribed bed rest. A convergent parallel mixed method design was used to analyze the coping behaviors of 40 high-risk pregnant women. A secondary analysis of data from the Brief Cope Scale (Carver, 1997) was used for the quantitative portion. Transcripts from the same 40 high-risk mothers were reviewed as a secondary analysis using a Step-by-Step Simple Thematic Analysis (Nowell, Norris, White, & Moules, 2017). The most frequently identified maternal coping behaviors were emotional support, positive reframing, religion, acceptance, instrumental support and planning. The less frequently used coping behaviors were self-distraction, humor, substance use, self-blame, denial, and behavioral disengagement. The overreaching theme from the qualitative analysis was Coping in

High-Risk Pregnancy. Seven themes were identified from the transcripts: Family Burdens, Fearfully Waiting, Leaning on Faith, Hope, Acceptance, Knowledge Seeking, and Support Enhances Maternal Coping.

Quantitative and qualitative data were triangulated to identify those behaviors that were convergent or divergent in this mixed method design. By identifying adaptive coping behaviors of high-risk hospitalized mothers antepartum care may be improved.

TABLE OF CONTENTS

LIST OF TABLES

Table Page

LIST OF FIGURES

Figures Page

CHAPTER I

INTRODUCTION

In the United States, activity restriction or antepartum bed rest may be prescribed for pregnancy complications, affecting approximately one million pregnant women annually at a cost of over 26 billion dollars (Bigelow & Stone, 2012; Goldenberg, 2002; Maloni, 2010; McCarty-Singleton & Sciscione, 2014.) Of all pregnant women, 20% are considered high-risk due to pregnancy complications such as preterm labor, preeclampsia, premature rupture of membranes, undiagnosed vaginal bleeding, placenta previa, abruptio placentae, polyhydramnios, gestational diabetes, or other preexisting maternal medical conditions. Pregnant women in their first trimester of pregnancy may be considered high-risk with the diagnoses of hyperemesis gravidarum or invitro-fertilization (March of Dimes Report Card, 2016).

Bed rest for high-risk women typically begins on admission to the antepartum unit and continues until the birth of the baby. This time period can be from days to months depending on the mother's diagnosis and viability of the baby.

In a study of high-risk women who were on prescribed bed rest, Maloni (2011) uncovered multiple psychosocial issues, including perinatal distress, depression, anxiety, fear, loss of control, and financial strain. Many studies previously focused on the psychosocial aspect of antepartum bed rest. Some of the issues are effects on the family, role strain, separation from children at home, and issues within the marital relationship

(Byatt et al., 2014; Denis, Michaux, & Callahan, 2012; Kent, Yazbek, Heyns, & Coetzee, 2015; Lederman et al., 2013; Maloni, 2011). Few studies examined maternal coping skills in relationship to bed rest. Gourounti, Anagnostopolus, and Lykeridou (2013) in a systemic review, identified only a few research studies that addressed maternal coping strategies and the relationship of maternal depression and anxiety during high-risk pregnancy. Gourounti et al. (2013) theorized that the identification of maternal coping behaviors could assist the healthcare providers to facilitate coping behaviors to reduce antepartum maternal depression and anxiety.

Statement of Purpose

The purpose of this study is to identify most frequently and less frequently used coping behaviors and understand the lived experience of coping as perceived by high-risk mothers hospitalized and prescribed bed rest. Maternal coping behaviors may assist high-risk mothers' adaptation to bed rest in the hospital setting.

Research Questions

1. What coping behaviors are used by high-risk pregnant women hospitalized and prescribed antepartum bed rest?

2. What is the lived experience of high-risk pregnant women coping with hospitalization and prescribed antepartum bed rest?

Rationale for the Study

Studies have indicated that mothers on antepartum bed rest, experience high degrees of stress, depression, and psychosocial challenges. Gourounti et al. (2013) studied "coping strategies, anxiety, worries and depression…" (p. 33). Gourounti et al. (2013) of the study used the Brief Cope Scale, the Cambridge Worry Scale, and the State-Trait Anxiety Inventory. In an additional study, Denis et al. (2013) evaluated depression and anxiety symptoms in individuals using the Edinburg Post-Natal Depression Scale (EPDS) and the High-Risk Pregnancy Stress Scale. Byatt et al. (2014) researched depression and anxiety in high-risk mothers, the changes in depression and anxiety over the time of hospitalization and the access to mental healthcare. The scales used by Byatt et al. (2014) were the EPDS and the Generalized Anxiety Disorder 7-item scale.

Bansil et al. (2010) indicated women with prenatal depression were more likely to have pregnancy somatic and complications such as diabetes, anemia, and pregnancy-induced hypertension. Maternal depression contributed to a higher incidence of fetal morbidity and mortality including fetal growth restriction, prematurity, fetal anomalies and fetal death (Byatt et al., 2014).

Some maternal coping behaviors may result in an increased incidence of maternal health issues resulting in poor birth outcomes (Brandon et al., 2008, Byatt et al., 2014; Gourounti et al., 2013). Maternal coping skills may mitigate the negative psychosocial effects of bed rest leading to lower levels of depression and anxiety improving maternal

and neonatal health. Identification and enhancement of positive and mitigation of negative maternal coping behaviors utilized by high-risk mothers experiencing bed rest may lead to optimum birth outcomes and maternal adaptation.

Theoretical Framework

The theoretical framework for this study is Lazarus and Folkman's (1984) Transactional Model of "stress, appraisal and coping". According to Lazarus and Folkman's (1984) transactional model, an individual undergoes a process in evaluating stressful events and coping in relation to themselves as a person and the environment.

Lazarus and Folkman (1987) define coping as "adaptational outcomes such as subjective well-being, social functioning, and health" (p. 146). Lazarus and Folkman discuss, primary and secondary appraisal that lead to coping. In the initial phases, individuals react differently to stress, evaluating the degree and context of stress. In appraisal, the individual recognizes the stressful event and assesses it on an emotional level as "harmful, threatening, challenging or benign" (p. 151). Over time, the individual moves to the coping phase, which can be situational or life-long (Lazarus & Folkman, 1987).

When the transactional model is guiding the assessment of effective maternal coping, it is an ongoing assessment, reassessment, and evaluation, re-evaluation process. If an individual perceives an experience or event to be highly stressful, that person will carry out an assessment to establish the degree of threat. Establishing the degree of the threat is primary appraisal. The secondary reaction is to determine available coping

resources. Effective coping mechanisms may be instituted to diffuse the threat (Lazarus & Folkman, 1984).

Lazarus (1999) theorized that positive coping behaviors moderate the effects of stressful events and negative emotions. According to Lazarus and Folkman (1984), there are two widely accepted functions of coping:

1. Regulating stressful emotions (emotion-focused coping strategies such as active and passive avoidance, escaping, seeking social support, and positively reappraising the stressor).
2. Managing the problem causing distress (problem-focused coping strategies such as planning how to change the stressor, seeking practical or information support and confronting the stressful situation).

Overall, problem-focused coping appears to be more effective than maladaptive emotional-focused coping skills. High-risk mothers that utilize problem-focused coping are for the most part more goal oriented, seek informational and social support, and confront the stressor (Gourounti et al., 2013; Lazarus & Folkman, 1984).

Using Lazarus and Folkman's (1984) transactional model, Sanguanklin et al. (2014) studied the effects of "job strain and psychological distress among employed pregnant Thai women" and the "role of social support and coping strategies" (p. 317). The cross-sectional study findings revealed that job strain was a predictor of psychological distress in 54% of the participants. Two specific coping mechanisms mitigated the impact of job strain: perceived family support and wishful thinking. Both

coping mechanisms "moderated the effects of job strain on psychological distress" (Sanguanklin et al., 2014, p. 317).

Gourounti et al. (2013) evaluated stress and coping in high-risk pregnant women using Lazarus and Folkman's transactional model (1984) in a systematic review. The results of the study showed that high-risk women with a maladaptive coping mechanism such as avoidance, denial, and self-blame had increased difficulty with psychosocial adaptation. These mothers had higher degrees of pregnancy worries, anxiety, and depressive symptomatology.

Definition of Terms

Terms used in this study include high-risk pregnancy, antepartum bed rest, and maternal coping. These are the conceptual and operational definitions of those terms.

High-Risk Pregnancy

High-risk pregnancy is a term associated with a condition or diagnosis that can be life threating to the mother or fetus. Multiple medical diagnoses indicate a high-risk pregnancy including in-vitro fertilization, hyperemesis gravidarum, preterm labor, preeclampsia, premature rupture of membranes, undiagnosed vaginal bleeding, placentae previa, abruption placentae, polyhydramnios, gestational diabetes, and other preexisting maternal medical conditions. Fetal conditions that result in high-risk pregnancy diagnoses are fetal anomalies, fetal growth restriction, large for gestational age infant, multiple gestations, and genetic disorders (Denis et al., 2012; Lederman et al., 2013;

March of Dimes, 2016). For this study, high-risk pregnancy diagnoses were identified by the admission diagnoses, the high-risk mothers' medical record, and the ICD-10 codes.

Antepartum Bed Rest

Antepartum bed rest is also known as activity restriction and the two terms are often used interchangeably. Antepartum bed rest (or total bed rest) is defined as restricted to bed without ambulation 23 out of 24 hours per day. Modified bed rest is prescribed for some mothers and allows high-risk mothers to ambulate to the bathroom being confined to bed 22 out of 24 hours daily (Maloni, 2011). The treatment of the mothers' high-risk pregnancy condition with antepartum bed rest is identified by the providers' orders.

Maternal Coping

Coping is defined as changes in cognitive and behavioral perspectives to deal with stressful situations (Lazarus & Folkman, 1984). High-risk mothers' coping behaviors consistently reframe emotional responses to stressful situations. Lack of adaptive coping skills can result in increased levels of anxiety and depression. The Brief Cope Scale (Carver, 1997) measured maternal coping behaviors in this author's study. Carver (1997) did not differentiate between adaptive and maladaptive coping behaviors in the Brief Cope Scale, rather he evaluated coping behaviors overall. The coping behaviors addressed in the Brief Cope Scale are active coping, planning, positive reframing, acceptance, humor, religion, using emotional support, using instrumental support,

distraction, denial, venting, substance use, behavioral disengagement, and self-blame (Carver, 1997; Carver et al., 1993).

Summary

High-risk pregnant mothers prescribed bed rest experience antenatal hardships. Hospitalization and prescribed bed rest present unique challenges for high-risk mothers. Coping skills play a major role in maternal psychosocial adaptation to bed rest. Lazarus and Folkman's transactional theory (1984) provides the framework for observing high-risk mothers experiencing the stress of hospitalization and bed rest. The theoretical framework, Lazarus and Folkman's transactional theory (1984) provided a guide of observing mothers and their reactions to the stress they perceived. High-risk mothers who use coping skills, identified as problem-focused use positive coping skills such as support and information seeking. If pregnant women at bed rest used emotional-focused maladaptive coping they exercised less favorable psychosocial adaptation to bed rest and complications of pregnancy (Gourounti et al., 2013).

Step-by-Step Simple Thematic Analysis as described by Nowell et al. (2017) was used to analyze the transcripts of the high-risk pregnant mothers hospitalized with pregnancy complications. The findings of this study showed how mothers with pregnancy complications cope with the burden of high-risk pregnancy and bed rest. An analysis of coping behaviors may potentially act as a foundation for future interventional research studies aimed at improving antenatal care.

CHAPTER II

REVIEW OF LITERATURE

High-risk pregnancy and antepartum bed rest present unique challenges for mothers and families. Many high-risk mothers are hospitalized unexpectedly due to complications of pregnancy. Bed rest is often the first line of treatment prescribed. Topics in this literature review include physical and psychosocial effects of bed rest, effects on the family function and children, neonatal implications, maternal coping, and antepartum depression and anxiety and support for high-risk pregnant women.

Bed Rest

Bed rest has been used for a variety of illnesses and afflictions since the era of Hippocrates. Throughout centuries of bed rest use, untoward results and side effects were analyzed. Slowly over time, the use of bed rest was discontinued for most medical conditions. Bed rest in pregnancy still remains as the first line of treatment for a number of pregnancy complications. Even though bed rest has not been shown to improve pregnancy outcomes, 95% of obstetricians still prescribe it as treatment (Bigelow & Stone, 2012; Rubarth, Schoening, Casimano, & Sandhurst, 2012). Bigelow and Stone (2012) indicated that 20% of all pregnant women were prescribed bed rest at some point during their pregnancy.

This review of the literature will include physical side effects of bed rest, psychosocial implications, influences on the children and the family, neonatal implications, maternal coping depression and anxiety and support for high-risk mothers.

Physical Side Effects of Bed Rest

According to Maloni (2011), bed rest physically results in a compromise to the high-risk mother. Essentially "every organ system is rapidly affected by activity restriction and the lack of use of weight-bearing tissues" (p. 385). High-risk mothers on complete bed rest exhibited alterations in the mother's health including decreased muscle mass, loss of bone density, cardiac decompensation, and balance and mobility issues. Prolonged bed rest can also result in a greater risk for deep vein thrombosis, disproportionate weight gain, and alteration in carbohydrate metabolism (Lujan, White, & Barber, 1994; Maloni, 2011).

Other maternal physical side effects of bed rest are decreased lung capacity, gastroesophageal reflux, headaches, increased blood pressure and electrolyte losses of sodium and chloride. High-risk mothers on antepartum bed rest have an increased susceptibility to infection, skin breakdown, and nerve compression. Ineffective sleep can exacerbate physical symptoms and lead to a greater incidence of somatic complaints (Lujan et al., 1994; Maloni, 2011; McCall, Grimes, & Lyerly, 2013; McCarty-Singleton & Sciscione, 2014).

Psychosocial Complications

In addition to physical complications, mothers on complete bed rest frequently incur psychosocial complications. These adverse psychosocial consequences can affect the mother, family and the fetus. The most common problems experienced by high-risk mothers are the psychosocial effects of loneliness, uncertainty, alteration in mood state, anxiety and depression (Byatt et al., 2014; Denis et al., 2011, Lederman et al., 2013). Antepartum bed rest can lead to mood changes including anger, fear, uncertainty, and vulnerability (Maloni, 2011).

Multiple studies supported the occurrence of maladaptive coping and depression and anxiety in hospitalized high-risk pregnant mothers (Byatt et al., 2014; Denis et al., 2012). A survey of 55 high-risk antepartum mothers indicated half of the mothers exhibited prenatal depression and all had high levels of anxiety. Indicators for depression were low self-esteem, low levels of social support and lack of information. Correlations were present between depression and self-esteem (Rho = -0.48; $p < .05$), avoidant coping strategies (Rho = 0.29; $p < .05$) and spiritual coping strategies (Rho = 0.27; $p < .05$) (Denis et al., 2012).

Influences on Children and the Family

High-risk pregnant mothers frequently receive their high-risk diagnoses and prescription for bed rest unexpectedly. Alteration in family function occurred as the mother has lack of time to prepare the family for this lifestyle change. Some of the considerations are job and financial responsibilities, lack of ability to set up childcare for

children at home and missing out on the opportunity to prepare for the baby. High-risk mothers are frequently concerned with the inability to set up the nursery, attend childbirth classes or participate in their own baby shower (Lederman et al., 2013).

Other hardships faced when mothers are hospitalized are a change in family function, isolation, and boredom. Activity restriction decreases interactions between the high-risk mother and family support. Concerns that heightened maternal anxiety are related to childcare, finances and relationship difficulties with significant other (Lederman et al., 2013). According to Maloni (2011), high-risk mothers have high levels of perinatal stress resulting from separation from family, financial difficulties, family role alterations and lack of control.

Additional studies also indicated that there are few resources to assist the mother prescribed antepartum bed rest. High-risk mothers verbalized common themes such as perinatal stress, alteration in family function, separation from family, difficulty with the spousal relationship and fear of the unknown (Lederman et al., 2013; McCarty-Singleton & Sciscione, 2014).

Feelings of the lack of support were correlated with depressive symptoms. Mothers that have been admitted to a tertiary care center can be too far away geographically for family visits which may indicate a significant financial burden to the family (Lederman et al., 2013: Maloni, 2011; McCarty-Singleton & Sciscione, 2014).

Cihan, Dirilen-Gumus, and Erkenekli (2017) conducted a study that compared risk-free and high-risk pregnant women and family resilience. Risk-free mothers (n = 105)

and high-risk mothers (n = 87) participated in the study to measure factors that contribute to family resilience. The themes that were identified included social support and belief systems. Social support was from spouses, relatives, friends, doctors, and children. While belief systems were religion and positive outlook. The findings showed that the high-risk group used more religious belief systems than the risk-free group. There was no difference in the two groups regarding family resilience.

Lederman et al. (2013) conducted a phenomenological, qualitative study of 40 high-risk mothers. The purpose of the study was to identify common themes and experiences of high-risk women when confined to bed rest. Five themes emerged using Colaizzi's (1978) method of analysis:

1. Acceptance of pregnancy, but fears specific to elevated risk of self and baby.
2. Heightened identification with motherhood and fatherhood as protector roles.
3. Deepening of mother-daughter closeness intensified by high-risk pregnancy.
4. Enhanced couple support and collaboration.
5. Acceptance of responsibility to perform in remaining pregnant and preparing for labor but the willingness to accept help from doctors and nurses (Lederman et al., 2013, p. 136).

Janighorban, Heidari, Dadkhah, and Mohmmadi (2018) completed a qualitative study on the needs of high-risk women prescribed bed rest. The sample population was 21 high-risk women, 10 spouses, and 7 medical personnel. The results indicated that there were four areas of psychosocial needs verbalized by the participants. The

categories were “psychosocial support, support for family and personal affairs, support for looking after children, and the need for economic support” (p. 1327). The researchers recommended comprehensive support for high-risk mothers to minimize psychosocial hardships and assist the mothers with coping behaviors.

Children of hospitalized mothers may have behavioral problems including apathy and difficulty with schoolwork. The children are often confused and afraid, not fully understanding the absence of their mother (Lederman et al., 2013; McCarty-Singleton & Sciscione, 2014). Other issues experienced by high-risk mothers prescribed bed rest are lack of social support, concerns for their children at home, and alteration in daily routines (Rubarth, Schoening, Cosimano, & Sandhurst, 2012).

Alterations in close relationships effect the level of support available to hospitalized high-risk mothers. Fathers typically have increased responsibilities at home limiting time that they can spend at the hospital. Friends and family members who provide the high-risk mother with social support are often not able to visit due to the geographical distance, if the mother was transferred to a tertiary care center.

Neonatal Implications of Maternal Bed Rest

The United States Preventative Task Force (USPTF) identified the negative childhood outcomes when maternal depression is involved. Mothers with a major depressive disorder have a high incidence of preterm birth and low birth weight neonates (Straub, Adams, Kim, & Silver, 2012).

Antepartum mothers prescribed bed rest have higher levels of anxiety and depression than low-risk pregnant women. High-risk mothers who have higher depression have an increased chance of neonatal complications. Research findings indicated that neonates born to depressed mothers on antepartum bed rest have a higher incidence of preterm birth, low birth weight, and intrauterine growth restriction (Accott, Cheadle & Dunkle, 2014-2015; Brandon et al., 2008). Additionally, mothers with a preexisting major depressive disorder (MDD) had a significant increase in preterm birth (Straub et al., 2012).

Straub et al. (2012) conducted a research study that screened 14,175 pregnant women. Women who were considered at risk for depression (n = 1298) delivered premature babies at a significantly increased rate over women not at risk. "Multivariable analysis adjusting for maternal age, race/ethnicity, prior preterm delivery, and insurance status revealed a persistent association between antenatal depressive symptoms and preterm birth" (p. 329.e1).

Social support mitigates depression and improves birth outcomes. Women with limited support systems had babies who weighed less, were born sooner, and had lower Apgar scores (Giurgescu et al., 2015). Maternal support has been shown to decrease the degree of maternal depression resulting in healthier babies and a reduction in poor birth outcomes (Nylen, O'Hara, & Engeldinger, 2013).

Maternal Coping, Depression, and Anxiety

Multiple studies have identified the occurrence of inappropriate coping behaviors may lead to depression and anxiety in hospitalized high-risk pregnant mothers (George, Luz, Tuchey, Thilly, & Spitz, 2013; Guardino & Dunkel Schetter, 2014). A survey of 55 high-risk antepartum mothers indicated half of the mothers exhibited prenatal depression and all had high levels of anxiety. Indicators for depression were low self-esteem, support, and lack of information (Denis et al., 2012).

In a cross-sectional, descriptive correlation study, Giurgescu et al. (2015) used Lazarus and Folkman's (1984) transactional model of stress appraisal and coping to evaluate depressive symptoms and coping in African American pregnant women who lived in disadvantaged neighborhoods. Ninety-five African American women completed surveys and data collection tools. The goal was to measure the participants' perception of their neighborhood, support, coping avoidance, and depressive symptoms. Findings indicated that lower perceptions of their neighborhoods in the second trimester led to higher levels of depression in the third trimester. The data was analyzed using Pearson's *r* to evaluate the relationship between uncertainty, social support, prenatal coping and psychological well-being. Avoidance was correlated positively with uncertainty. The need for coping skills to abate avoidance resulting in depression was determined.

Byatt et al. (2014) conducted a research study to examine the incidence of depression and anxiety symptoms in hospitalized high-risk pregnant women. In addition, the authors of the study analyzed changes in the level of depression and anxiety over time

and the occurrence of the mothers who received psychological services during hospitalization. All of the study participants showed significant levels of anxiety and depression on admission but less than 5% received psychological services. Over time, during a post-partum evaluation, levels of depression and anxiety were lower for most of the sample population.

Four hundred pregnant women participated in a descriptive survey study to measure anxiety symptoms and coping strategies during the perinatal period. Participants completed self-administered surveys; the Hospital Anxiety-Depression scale and Carver's Brief Cope Scale once during the third trimester of pregnancy and again at two months postpartum. The finding showed that 18.8% of the participants had severe anxiety maladaptive coping mechanisms which were thought to have contributed to an increase in anxiety postpartum (George et al., 2013).

In a quantitative, cross-sectional, prospective study, Oni, Harville, Xiong, & Buekens (2015) researched the stress coping styles and pregnancy complications for women exposed to Hurricane Katrina. All of the 168 study participants were pregnant during Hurricane Katrina or right after. The Brief Cope Scale (Carver, 1997) was used to evaluate perceived stress and coping behaviors. Pregnancy outcomes of these mothers were analyzed using logistic regression modeling. Findings indicated that Hurricane exposure significantly correlated to mothers undergoing an induction of labor ($p = .03$).

Incidence of pregnancy-induced hypertension and gestational diabetes was significantly correlated to stress perception ($p < .05$). The "use of planning, acceptance,

humor, instrumental support, and venting coping styles were associated with significantly reduced occurrence of pregnancy complications ($p < .05$)" (p. 255). When denial was used as a coping behavior by the pregnant women there was an increased incidence of gestational diabetes ($p = .02$). The researchers' findings indicate that adaptive coping skills may mitigate high stress situations while negative coping behaviors may exacerbate complications of pregnancy. These coping behavior categories were different from those of Lazarus and Folkman's (1984) that were problem-focused and emotional-focused coping behaviors.

Gourounti et al. (2013) indicated that even though anxiety disorders have been the focus of several high-risk studies, the relationship between maternal coping behaviors to psychosocial adaptation has not been established. In a study by Gourounti et al. (2013), of maternal coping strategies and the relationship to maternal anxiety, pregnancy worries and depressive symptomatology in a sample population of 163 high-risk Greek women were analyzed. Pearson's correlation coefficients were calculated among all study variables, followed by hierarchical multiple linear regression (Gourounti et al., p. 353.) Results indicated that women with a low socioeconomic status, unemployment, in-vitro fertilization pregnancy and a history of pregnancy loss had higher degrees of anxiety, depression, and worries. Coping behaviors for these mothers included denial, disengagement, self-blame and distraction, substance use, active coping and seeking emotional support. The number one coping mechanism for this study group was prayer.

Fiskin, Kaydirak, and Oskay (2017) studied a sample of 122 high-risk pregnant women in a descriptive survey study. The aim of the study was to examine the psychosocial adaptation of the study participants once they were admitted to the antepartum unit with a high-risk pregnancy diagnosis. The research results indicated that 47% of all participants had poor psychosocial adaptive skills and 57% exhibited depressive symptoms.

In a descriptive correlation study, (Dunn & Shelton, 2017) spiritual well-being was examined as a maternal coping mechanism for high-risk women prescribed bed rest. The study compared the result of nonpregnant women, low-risk pregnant women, and hospitalized high-risk women. In all groups, there was an inverse relationship between anxiety and depression and spiritual well-being. However, study results identified the high-risk women with increased levels of anxiety and depression had lower levels of spiritual well-being. Spirituality was the only maternal coping mechanism analyzed for this study (Dunn & Shelton, 2017).

In a correlational study by Sarani, Azhari, Mazlom, and Aghamohammadian (2016) 500 pregnant women were screened for reported levels of stress and coping strategies. The coping skills analyzed were planned preparedness, positive spirituality, and avoidance. From the same population the pregnancy stress questionnaire was evaluated. Scores from the surveys indicated that there was a significant inverse linear correlation between perceived stress and the strategies of planned preparedness and the spiritual strategy. In addition, using a Spearman rho a statistically significant positive

correlation ($p < 0.0001$) between perceived stress and the avoidance behaviors was identified. Guardino and Dunkel Schetter (2013) described women who turned to prayer during their pregnancies showed a positive strategy for spiritual health and delivered healthy babies.

A cross-sectional, descriptive, correlational research design was used to study well-being in 105 hospitalized high-risk pregnant women. The focus of the study was to determine if well-being was impacted by prenatal coping strategies. The coping strategies studied were preparation for motherhood, avoidance, positive interpretation, and prayer. The researchers studied whether the coping behaviors mediated the effects of uncertainty and social support and influenced the well-being of the high-risk mothers. Avoidance was used the least. Less social support correlated with higher levels of uncertainty ($p < .01$) and less psychological well-being. Prayer was the most frequently used coping behavior and avoidance was used the least (Giurgescu, Penckofer, Maurer, & Bryant, 2006).

Support for High-Risk Mothers

Lazarus and Folkman's (1984) transactional model of stress and coping identifies seeking support from individuals as a positive coping mechanism. In addition, Carver's (1997) Brief Cope Scale classifies seeking emotional support as a positive coping skill. This section of the literature review will include a discussion of support for high-risk mothers including tours of the NICU, bed rest exercises, support groups, interactions with the health care team, integrative therapy, and access to social media through the Internet.

Kent et al. (2015) conducted a qualitative exploratory research project in which the participants felt isolation and loneliness. Suggestions from the high-risk mothers to lessen their isolation included conducting support groups on a regular basis, improving the hospital environment and are accepting of social support from the family. Additional findings also emphasized development of programs to assist mothers in coping skills for prolonged hospitalization.

Kim and Park (2018) researched the effect of structured bed rest exercise on uterine contraction frequency, blood pressure, and fetal heart rate. The researchers also monitored maternal psychosocial discomfort, anxiety, and depression for high-risk women prescribed bed rest. The randomized control trial included 45 high-risk women randomly assigned to either the experimental or control group. The experimental group received structured exercise while the control group did not. Kim and Park concluded there was not an increased risk to the fetus from structured bed rest exercises and the high-risk women had a decrease in physical discomforts and anxiety ($t = 2.96$, $p = .007$).

A correlational research study by Denis et al. (2012) analyzed depression and anxiety in hospitalized high-risk women while "examining the impact of self-esteem, social support and coping strategies" (p. 124). Over half of the 52 individuals who took part in the study while on antepartum bed rest had symptoms of prenatal depression. All of the high-risk mothers exhibited high levels of anxiety. Low levels of informational support and self-esteem were factors predictive for depression. Anxiety predictive factors were age and scores on the Edinburgh Postnatal Depression Scale. Denis et al.

recommendations included the importance of appropriate psychological referrals to assist in the abatement of perinatal depression and anxiety.

Many mothers who became high-risk were unexpectedly hospitalized. Emotions expressed by these mothers included fear, lack of preparedness for the delivery, and limited understanding of their high-risk condition. Some mothers questioned their ability to care for a premature infant and verbalized concern of caring for a baby in the neonatal intensive care. High-risk mothers emphasized the importance of relationships with peer groups, individual childbirth educators, and their healthcare team (Lederman et al., 2013).

Maternal coping and adaptation to bed rest and hospitalization is a psychosocial process. Communication and the doctor-patient relationship can facilitate understanding of the high-risk diagnosis and decrease maternal anxiety. A useful tool in minimizing maternal psychosocial stress was open communication between the medical team, physician, and the mother (Pozzo, Brusati, & Cetin, 2010). Antenatal group support sessions have been shown to mitigate the negative effects of antepartum bed rest. Discussion themes by high-risk mothers included care of a premature infant, concerns for family, psychosocial issues and the health of the baby (Lederman et al., 2013).

In a study by Morey and Gregory (2012), a nurse-led interventional study analyzed responses of 45 high-risk women to support sessions providing information regarding neonatal care. These informational support sessions focused on antepartum risk and neonatal intensive care unit (NICU) babies. Using a repeated measures design

the study results showed that maternal stress regarding the NICU was significant (p = 0.01).

Antepartum mothers hospitalized and prescribed bed rest experienced one integrative therapy in a retrospective analysis of 544 therapies (Schlegel, Whalen, & Williamsen, 2016). The therapies provided were acupuncture, guided imagery, healing touch, massage therapy, and reflexology. Anxiety and pain were measured on a 0 to 10 scale before and after the therapy was administered. Significant findings included a decrease in pain ($p < .001$) and a decrease in anxiety ($p < .001$). The researchers indicated there were no adverse effects and mothers experiencing bed rest could benefit from alternate therapies (Schlegel et al., 2016).

The role of access to the Internet is significant in reducing maternal isolation. Social media can assist the mother in communication with family, friends, and other mothers in high-risk situations experiencing bed rest. Internet availability for high-risk mothers can be a helpful informational tool that reduces maternal stress and anxiety (Lowe, Powell, Griffiths, Thorogood, & Locock, 2009).

High-risk mothers benefit from information sharing, an increased locus of control, expansion of support and alterations in the high-risk environment. Positive changes in the environment and care can include celebrating gestational milestones, liberal visitation hours and provision of technology to communicate with family and friends (Rubarth et al., 2012). The health care team can assist in providing consistent information regarding

the high-risk diagnosis, discussion of methods of delivery and consideration of neonatal support at birth (Lederman et al., 2013).

Summary

High-risk pregnancy and antepartum bed rest pose unique challenges for the pregnant mother. The literature review highlights the psychosocial and physical side effects on the mother as well as effects on the neonates, children, and the family. Some of the side effects of bed rest voiced by high-risk mothers included separation from family, economic hardships, boredom, isolation, and lack of control. Social support played a major role in maternal psychosocial adaptation to high-risk pregnancy. Visits from family, friends, and time spent with the health care team can reduce maternal feelings of isolation (Lederman et al., 2013).

Although there is ample evidence on the effects of antepartum bedrest, there is a gap in the literature regarding methods and frequency of maternal coping behaviors in high-risk pregnancy, hospitalization, and antepartum bed rest. In addition, a gap in the literature exists on the lived experience of coping in high-risk pregnancy requiring antepartum bed rest. Results from the data analysis of a convergent parallel mixed method design may provide insight into the experience of coping and the most frequent and less frequently used coping behaviors implemented by high-risk mothers. By identification of coping behaviors, antepartum care may be improved through an enhanced understanding of the high-risk mothers' psychosocial needs and coping behaviors.

CHAPTER III

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

Data for this research study was collected during a much larger research project, the *Maternal Development Experiences of Women Hospitalized to Prevent Preterm Birth* study (Lederman et al., 2013). Internal Review Board (IRB) approval was obtained from both Texas Woman's University (see Appendix A) and the University of Texas Medical Branch (IRB) (see Appendix B) to conduct a secondary analysis of the previously collected data. Permission for the use of this data was given by the initial Primary Investigator (PI), Dr. Regina Lederman (see Appendix C).

For this research study, a mixed method parallel convergent design was used for this secondary analysis study. The quantitative portion consisted of an analysis of previously collected data incorporating the Brief Cope Scale (Carver, 1997) using 40 participants from the original study. The qualitative portion incorporated a secondary data analysis of field notes, audio recordings, and transcripts derived from the same 40 high-risk antepartum women hospitalized and prescribed bed rest from the original study.

Setting

All of the study participants were hospitalized in a high-risk antepartum unit in a tertiary care center. The high-risk antepartum unit has an average census of 12 individuals per day. The medical center has approximately 4,500 deliveries annually.

The antepartum unit receives several weekly high-risk transfers from surrounding communities for care and delivery (Lederman et al., 2013).

Population and Sample

For the current study, a convenience sample of 40 de-identified high-risk pregnant women was drawn retrospectively from a larger overreaching study. Transcripts from the interviews of these women were used for a secondary qualitative analysis. High-risk pregnancy diagnoses included in-vitro fertilization, preterm labor, preterm rupture of membranes, hyperemesis, vaginal bleeding, early onset preeclampsia and pregnancy-induced hypertension, cervical insufficiency, diabetes, and other preexisting maternal medical conditions. Inclusion criteria for the participants included admission to the high-risk antepartum unit for at least 24 hours and prescribed total bed rest for at least 22 of 24 hours daily. Additional criteria included mothers with a singleton or twin gestation and a viable fetus or fetuses. Participants were 18 years of age or older and had the ability to read and write English. Excluded were participants younger than 18 years of age, mothers with multiple pregnancy greater than twins, diagnoses of fetal demise or inability to communicate in English.

Protection of Human Subjects

Protection of study participants began with full disclosure of the research study and explaining the purpose and process of the project. A consent form was signed by the mother, and she was advised that she could withdraw from the study at any time. A total

of 40 high-risk mothers were interviewed in their private hospital room. The data collection forms had all identifying information removed.

Instruments

While multiple instruments were used to collect data for the overreaching study, the current study re-examined data collected on the Demographic Data Form (see Appendix D), the Brief Cope Scale (see Appendix E) and the semi-structured interview schedule (see Appendix I). Prior to data collection, additional steps were taken to ensure the protection of the high-risk mothers. All data was de-identified with participants having a unique code number assigned.

Demographic Data Collection Instrument

The Demographic Data Form is a self-report 26-question inquiry regarding mother's status including age, marital status, education, occupation, prenatal care, annual income, and additional information (Lederman et al., 2013). Demographic data was analyzed by descriptive statistics, means, standard deviation, and frequencies. Categories included ethnicity, age, educational level, and marital status.

Brief Cope Scale

The Brief Cope Scale is a self-report 28-item questionnaire that is designed to evaluate study participant's coping responses to stressful events (see Appendix E). Carver (1997) adapted the original scale to the current 28-item version. The Brief Cope Scale consists of 14 subscales, with each question measuring a different method of coping. The 14 conceptually different coping reactions are active coping, planning, using

emotional support, using instrumental support, venting, positive reframing, acceptance, denial, self-blame, humor, religion, self-distraction, substance use, and behavioral disengagement. For each of the 14 coping strategies, there are two questions. For each question participants responded from 1-4 on the Likert scale: 1 = *I haven't been doing this at all*. 2 = *I've been doing this a little bit*. 3 = *I've been doing this a medium amount*. 4 = *I've been doing this a lot* (Carver, 1997).

The Brief Cope Scale has been used in multiple studies. Carver (1997) did not categorize the responses as adaptive or maladaptive coping mechanisms but allowed the researcher to determine the categorization of the coping skills. The scale has been validated in two other studies (Amoyi, Fernandez, Ng, & Fehon, 2016; Cooper, Katona, & Livingston, 2008). In a study population of individuals with dementia, the psychometric properties of the Brief Cope Scale were analyzed. The scale items were classified into three groups: emotion-focused, problem-focused, and dysfunctional focused. All groups showed validity, stability, and reliability over time (Cooper et al., 2008).

In a study of 120 liver transplant patients, the study findings indicated that the Brief Cope Scale is reliable using exploratory factor analysis. The researchers reported that the Brief Cope Scale was valid, reliable in liver transplant patients. Construct validity of the Brief Cope Scale was also demonstrated (Amoyi et al., 2016).
The scale indicates reliability with each subscale measuring Cronbach's alpha greater than .50 illustrated by the factor analysis (see Appendix F) which is acceptable to show

minimal reliability (Carver, 1997; Nunally, 1978). No studies were found validating the Brief Cope Scale in pregnant women.

Validity and Reliability

Construct validity for the subscale of venting α = .50 to substance use α =. 90 analysis results are illustrated by Cronbach's alpha for each item (Carver, 1997, p. 97). The internal consistency for both the adaptive and maladaptive scales was demonstrated with Cronbach's alpha (maladaptive α = .88) and Cronbach's alpha (adaptive coping α = .81) (Mahmoud, Hall, & Staten, 2010).

Data Collection Procedures

Data collection from the overreaching study began after assuring that the high-risk women met the inclusion criteria for the study. At least 24 hours after admission, a member of the research team interviewed the high-risk mother. Explanation of the research, and full disclosure, of the risks and benefits, were reviewed with the participants. Voluntary approval by the mother and signature on the approved IRB informed written consents were obtained.

Interview Session: A. Maternal Psychosocial Adaptation to Pregnancy

A semi-structured interview guide of 35 open-ended questions derived from two sources was utilized for qualitative data collection. The interview questions were derived from *Maternal Development Experiences of Women Hospitalized to Prevent Preterm Birth* (Lederman et al., 2013). Eight questions came from a review of the literature while the remaining 27 questions were adapted from Lederman and Wise (2009) *Psychosocial*

Adaptation to Pregnancy: Seven Dimensions of Maternal Role Development (see Appendix I). "A qualitative research interview design was used to elicit, analyze, and describe the subjective meanings and interpretation of the experience of women with severe complications of pregnancy that resulted in hospitalization to prevent preterm birth" (Lederman et al., 2013, p. 134). Example of questions from the interview guide:

- What has this experience of hospitalization been like for you? For your family?
- Can you say to what extent this pregnancy was planned?
- Who do you turn to for support?
- Do you feel the doctors and nurses caring for you understand you now…your physical needs and feelings?

Interviews were audio recorded and then transcribed verbatim. Field notes contained a written summary of the interview. Each interview was conducted privately in the mother's antepartum hospital room through face-to-face interviews lasting 40 to 45 minutes. All of the participant information was de-identified and assigned a unique number.

Each participant completed a Demographic Data Form and the Brief Cope Scale by self-report. Data were collected only once for each participant during the study. After completion of the interview, Demographic Data Form and the Brief Cope Scale the mother was given a $25 gift card to "Baby's R Us" (Lederman et al., 2013).

Treatment of Data in Mixed Methods Research

A mixed method research design was used for this study to increase the depth of understanding of maternal psychosocial adaptation to antepartum bed rest. Phenomena that are the focus of the study are explained (Doorenbos, 2015).

The advantages of a mixed method design are complementary, practicality, enhanced validity and collaboration (Polit & Beck, 2012). Implementation of a mixed methods design allows for two different research perspectives. Findings from the quantitative and qualitative data can result in enhanced interpretation of research results (Creswell, 2015).

The mixed method design used for this study is convergent parallel. In a convergent parallel design, both the quantitative and qualitative data are collected at the same time. The data is analyzed separately, merged together, and interpreted.

Interpretation

The merging and interpretation of the data are referred to as triangulation. By triangulating both qualitative and quantitative data together in a convergent parallel, design strength can be added to the study findings. One data set complements the other, leading to a deeper understanding and explanation of the research questions (Creswell, 2015).

Polit and Beck (2012) stated that a mixed method study could reveal alternate findings that are not evident by either quantitative or qualitative methods alone. Denzin (1989) coined the expression “triangulation” which means that data is gathered from

different methods, coming together in one study for in-depth results. Denzin (1989) explained triangulation as "each method implies a different line of action toward reality and hence each will reveal different aspects of it, much like a kaleidoscope" (p. 292-293). Quantitative study findings can be more generalizable and qualitative data extraction is more flexible.

A convergent parallel (concurrent) mixed method design examines quantitative data first followed by qualitative data (Creswell, 2015). Interfacing, triangulation, interpretation, and synthesis of the data result in study findings (Chiang-Hanisko et al., 2016). Benefits from a mixed-method design include increased validity strength of research results with the quantitative and qualitative findings complimenting each other (Doorenbos, 2015).

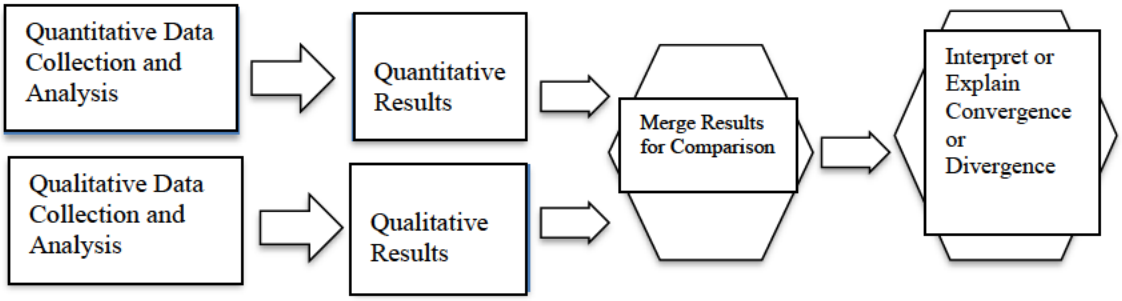
A secondary analysis of qualitative data is a research design that re-evaluates primary or original data from the previous study. Exploration of secondary data can result in meaningful use findings that are applicable to current evidence-based nursing practice. Secondary analysis is defined as the further analysis of an existing dataset to elaborate, investigate, or reanalyze the data (Du Plessis & Human, 2009; Windle, 2010).

Treatment Quantitative Data Analysis

For the current convergent parallel study, before analyzing quantitative data, normality and outliers for the continuous variables were checked and Cronbach's alpha was used to test for reliability of the Brief Cope Scale ($\alpha = .90$). For the Brief Cope Scale the mean and standard deviation are identified for each of the 14 subscales using

SPSS 25 (IBM, 2017). The demographic variables of age and gestational age were evaluated for mean, standard deviation, and range. Continuous variables of marital status, educational level, and ethnicity were evaluated for frequency and percent of total. Triangulation or merging of results brought the quantitative and qualitative results together for comparison (see Figure 1).

Figure 1. Convergent Parallel Design



(Creswell, 2015, p 56).

Qualitative Data Analysis

The six phases of the Step-by-Step Simple Thematic Analysis were used to analyze the qualitative data as described by Nowell et al., (2017).

1. Familiarizing yourself with your data: During Phase I, the researcher immersed herself in reviewing the data. Field notes, transcripts, and audio recordings were reviewed repeatedly. Data were organized in a concise manner. For this study, participants quotes, were organized using a Microsoft Excel (Office ProPlus 365) spreadsheet.

2. Generating initial codes: In Phase II, the researcher used a coding framework to formulate initial codes from data. During this phase, the researcher returned to the initial data and reviewed information that "allows the researcher to simplify and focus on specific characteristics of the data" (Nowell et al., 2017, p. 5).
3. Searching for themes: After initial coding has been completed Phase III involved reviewing the coded and collated data and developing themes. A theme may be an experience that alone seems to hold little meaning, but when grouped together with other participants' experiences had a more in-depth meaning. Original coding led to themes, and additional themes included subthemes.
4. Reviewing themes: In Phase IV refinement of the themes occurred by the researcher reviewing the original coding. The purpose of this review was to assure that the themes reflected the whole data set originally reviewed. In addition, themes were reviewed to assess whether there is sufficient data to support the theme.
5. Defining and naming themes: Phase V is when the themes are named and are aimed at telling the story of the overall data. The researcher decided if the theme ties into the overall data set and assisted in answering the hypotheses or research questions. At this point, the coding was reviewed again to ascertain if all of the pertinent data is represented. The researcher at this point clearly defined the meaning and scope of each theme.

6. Producing the report: "The write-up of the thematic analysis should provide a concise, coherent, logical, non-repetitive and interesting account of the data within and across themes" (Braun & Clarke, 2006; Nowell et al., 2017, p. 11).

Trustworthiness

In qualitative studies, trustworthiness is used to describe the stability of the study instead of reliability and validity. The data in this study and the research findings are transferable, meaning the findings in one setting can be transferred to similar settings. In addition, one way to show that qualitative research results are trustworthy is triangulation or comparing results "from different methods or groups on the same subject" (Joanna Briggs Institute, 2012, p. 133). The interview schedule was the same for each participant. Responses and themes may have similar replies to explain each individual mother's experience of hospitalization and bed rest (Lincoln & Guba, 1985).

Lincoln and Guba (1985) expanded trustworthiness by including the terms credibility, transferability, dependability, and confirmability. Each term is explained:

- Credibility suggests that the readers are able to recognize the topic under investigation.
- Transferability indicates that the findings are generalizable.
- Dependability indicates the research is logical, able to be followed throughout, and is clearly documented.
- Confirmability suggests that researchers can ensure that findings are clearly derived from the data and the process of interpretation (Lincoln & Guba, 1985).

Reporting Mixed Method Results

The results of this data analysis are presented in a 3-column side-by-side joint display. Quantitative statistical results are shown in column 1, while column 2 has the quotes from the qualitative analysis. A comparison of the data is in column 3 and confirmed or disconfirmed in comparison of the quantitative and qualitative data. By using a side-by-side comparison, the researcher analyzed the data and showed if the findings represent convergence or divergence of the two data sets (Creswell & Creswell; 2018; Creswell, 2015). Quantitative results were then merged with the findings of the qualitative analysis. Convergence and divergence of the two sets of results were analyzed.

CHAPTER IV

ANALYSIS OF DATA

This study is a mixed method design to understand the "lived experience" and maternal coping behaviors in high-risk pregnancy and bed rest. The quantitative data is derived from Demographic Data and the Brief Cope Scale. While the qualitative data is from the participants responses to the interview schedule: *Maternal Psychosocial Adaptation to Pregnancy*. This is a secondary review using Step-by-Step Simple Thematic Analysis as described by Nowell et al. (2017).

For this convergent parallel design, before analyzing quantitative data, normality and outliers for the continuous variables were checked and Cronbach's alpha was used to test for reliability of the Brief Cope Scale subscales ($\alpha = .90$). For the Brief Cope Scale, the mean and standard deviation are identified for each of the 14 subscales using SPSS 25 (IBM, 2017). The results of the 14 subscales are reported. The demographic variables of maternal age and gestational age are reported for mean, standard deviation, and range. Demographic data that are continuous variables, ethnicity, marital status, and educational level were analyzed and reported by percentage and total number. The quantitative data is reported first followed by the qualitative data analysis. Triangulation or merging of results bring the quantitative and qualitative results together for comparison (Figure 1).

Description of the Sample

There were 40 participants with complete data sets for the Demographic Data Form. Their data was reviewed for the secondary analysis. The high-risk mothers ranged in age from 18 to 43 (M = 28.4, SD = 7.4). The ethnicity of the high-risk mothers was 52.5% African American (n = 21), 27.5% Hispanic (n = 11), and 20% Caucasian (n = 8). Marital status of the participants reflected that 47.5% (n = 19) were married with a partner at home. Respondents who identified as single with a partner in the home equaled 32.5% (n = 13). Mothers who are married or single and do not have a partner at home included 20% (n = 8) of the participants. Educational status for 30% (n = 12) of the mothers included responses that they had an Associate, Bachelor's or Graduate degree. Some of the participants responded that they had college credits, 32.5% (n = 13). Those participants who replied that they did not complete high school or had a high school education totaled 37% (n = 15).

Gestational age for the high-risk mothers ranged from two to 38 weeks (M = 25.8, SD = 8.63). Diagnoses for hospitalized high-risk mothers included preterm rupture of membranes, hyperemesis, in-vitro fertilization, preterm labor, vaginal bleeding, early onset preeclampsia or gestational hypertension, cervical insufficiency and diabetes.

Findings of Quantitative Data Analysis

Brief Cope Scale

The quantitative analysis answered the question: What coping behaviors are used by high-risk pregnant women hospitalized and prescribed antepartum bed rest? The Brief Cope Scale was completed by the participants. Some of the behaviors are not congruent with bed rest, but the Brief Cope Scale items are listed in Table 1.

Table 1

Coping Behaviors and Corresponding Survey Items

Maternal Coping Behaviors	Survey Items
Emotional Support	I've been getting emotional support from others.
	I've been getting comfort and understanding from someone.
Positive Reframing	I've been trying to see it in a different light, to make it seem more positive
	I've been looking for something good in what is happening.
Religion	I've been trying to find comfort in my religion or spiritual beliefs.
	I've been praying or meditating.
Acceptance	I've been accepting the reality of the fact that it has happened.
	I've been learning to live with it.
Instrumental Support	I've been getting help and advice from other people.
	I've been trying to get advice or help from other people about what to do.
Planning	I've been trying to come up with a strategy about what to do.
	I've been thinking hard about what steps to take.
Venting	I've been saying things to let my unpleasant feelings escape.

Table 1

Coping Behaviors and Corresponding Survey Items (continued)

Maternal Coping Behaviors	Survey Items
Active Coping	I've been trying to take action to try to make the situation better.
	I've been concentrating my efforts on doing something about the situation I'm in.
Self-distraction	I've been turning to work or other activities to take my mind off things.
	I've been doing something to think about it less, such as going to the movies, watching TV, reading, daydreaming, sleeping or shopping.
Humor	I've been making jokes about it.
	I've been making fun of the situation.
Substance Use	I've been using alcohol or other drugs to make myself feel better.
	I've been using alcohol or other drugs to help me get through it.
Self-blame	I've been criticizing myself.
	I've been blaming myself for things that have happened.
Denial	I've been saying to myself "this isn't real."
	I've been refusing to believe that it has happened.
Behavioral Disengagement	I've been giving up trying to deal with it.
	I've been giving up the attempt to cope.

Mean scores of the coping behaviors range from 1.06 to 3.28. Coping behaviors that were reported as used most frequently by the participants included emotional support (M = 3.28, SD = 0.966), positive reframing (M = 3.22, SD = 0.940), religion (M = 3.19, SD = 1.022), and acceptance (M = 3.14, SD = 0.965). The statistical findings (corresponding percentages and frequencies) of each item that indicated frequently used coping behaviors were analyzed (see Appendix G). Coping behaviors that were used less

frequently by the participants are venting (*M* = 1.87, *SD* = 1.01), self-blame (*M* = 1.55, *SD* = 0.888), denial (*M* = 1.48, *SD* = 0.984), behavioral disengagement (*M* = 1.30, *SD* = 0.644), and substance abuse (*M* = 1.06, *SD* = 0.344). Corresponding percentages and frequencies of the lesser used coping behavior items were analyzed and presented (see Appendix H). Table 2 presents an overview of the means, standard deviations, and corresponding survey items.

Table 2

Maternal Coping Behaviors, Means, Standard Deviations, Corresponding Survey Items from the Brief Cope Scale

Maternal Coping Behaviors	*M*	*SD*	Survey Items
Emotional Support	3.28	0.966	Items 5 and 15
Positive Reframing	3.22	0.940	Items 12 and 17
Religion	3.19	1.022	Items 22 and 27
Acceptance	3.14	0.965	Items 20 and 24
Instrumental Support	3.05	0.966	Items 10 and 23
Planning	3.01	1.020	Items 14 and 25
Active Coping	2.89	0.899	Items 2 and 7
Self-distraction	2.45	1.066	Items 1 and 19
Humor	2.01	1.100	Items 18 and 28
Venting	1.87	1.010	Items 9 and 21
Self-blame	1.55	0.888	Items 13 and 26
Denial	1.49	0.894	Items 3 and 8
Behavioral Disengagement	1.30	0.644	Items 6 and 16
Substance Use	1.06	0.344	Items 4 and 11

Findings of Qualitative Analysis

Results of Step-by-Step Thematic Analysis

The qualitative analysis answered the question: What is the lived experience of high-risk pregnant women coping with hospitalization and prescribed antepartum bed rest?

The participant's interview transcripts were analyzed using a Step-by-Step Simple Thematic Analysis as described by Nowell et al. (2017). The overreaching theme was Coping in High-Risk Pregnancy and the seven recurrent themes were identified as Family Burdens, Fearfully Waiting, Leaning on Faith, Hope, Acceptance, Knowledge Seeking, and Support Enhances Maternal Coping (see Table 3).

Table 3

Maternal Coping Behaviors in High-Risk Pregnancy Overreaching Theme, Themes, and Subthemes of 40 Pregnant Women Hospitalized and Prescribed Bed Rest

Overreaching theme	Themes	Subthemes
Coping in High-Risk Pregnancy	Family Burdens	Grieving for children at home
		Change in spousal roles
		Financial burden
		Maternal guilt
	Fearfully Waiting	Will he survive?
		Fear of prolonged hospitalization
		Fear of baby being sick
		Depending of prayer
	Leaning on Faith	God is in control
		Teaching children to know God
		Hope for the health of the baby
	Hope	Planning for the future
	Acceptance	Willing to do what it takes

Overreaching theme	Themes	Subthemes
	Knowledge Seeking	Peer support groups
		Internet, TV shows
		Health care team
		March of Dimes
	Support Enhances Maternal Coping	Bonding with Husband/Partner
		Support from Mother, Family
		Confidence in Medical Team

Family Burdens

Grieving the Children at Home

In this study, the mothers had to cope with family burdens. Many of the mothers with children voiced concern and grieved for their children at home. "When your kids are calling and they're sad because you're not home you know it can make it tough." Many mothers missed their children:

> One of the hardest things about being here on bed rest is missing my older two children. I haven't seen them in days. All I have is a picture of my two-year-old and I can't wait to get out of here.

Hospitalized mothers voiced their concerns regarding the care of their children at home. "My son is getting in trouble at school. I know he is worried and missing me. His whole world has been turned upside down." Participants expressed worry for their children. "I worry about my two boys at home" and "obviously I am worried, having a daughter at home." Child care was a concern for many of the mothers as the mothers were the primary caretakers of the children in the home during the day:

> I have a two-year-old at home. I can't wait to get out of this bed, I miss

him so much and worry about him all the time. Different relatives are taking care of him while my husband is at work. I am his mother and I should be with him. It has been two weeks since I have seen him.

Changes in family dynamics were yet another reason for grieving for the children at home:

My husband and I run our own business and I can't be there to help. So that creates a tremendous burden on him.

We also have 2 children that have had to stay with relatives. I know they do not understand the situation.

Changes in Spousal Roles

Pregnant mothers described the changes in their families due to hospitalization and pregnancy complications. One main subtheme was that the husband/partner took on more responsibilities in the home resulting in changes in spousal roles. Fathers/partners took on more of the household chores. "My husband is doing more at home, he has never had to use a washer and dryer." In addition to taking on household chores, many partners had to care for the children. "My husband is taking care of the kids, washing clothes, and going to the grocery store…. he has taken care of everything and he does everything when he is at home…takes care of the kids."

Financial Burden

High-risk mothers in this study discussed the financial burden of hospitalization. Financial hardship was great for the families where the mother was the only one who

brought home an income. "(I am) the only bread-winner of the family and I don't know what we are going to do." Another mother responded:

> My husband is not working, and I had the only income. Then I got put on bed rest. And we think finances are an extreme issue. I mean just being poor and you don't know where your next dollar is coming from. I think the stress causes the baby to come early. My goal is to pay our rent and have a roof over our head. It is very stressful.

In some cases, extended family helped with the financial burden, "my mother is helping us out financially."

Maternal Guilt

Mothers with pregnancy complications experiencing bed rest often verbalized feeling guilty regarding hospitalization. "I feel guilty for being here instead of taking care of him, he is just a baby. He is 14 months-old." Some participants expressed guilt over their high-risk condition. "Could I have done something to cause this?" Some mothers wondered, "Does stress bring this on, if I was not taking care of myself?'

Fearfully Waiting

Will he survive?

High-risk participants had to cope with worry about the survival of their babies. "If he was to come early, will he survive? Mostly will he survive?' Almost all mothers

were fearful for the health and survival of their baby. "(I am) afraid of losing the baby or something being really wrong" and "I really want my baby to be healthy."

Fear of Prolonged Hospitalization

Prolonged hospitalization was identified as a stressor for many mothers. "I just got tired of being here. You know I was expecting to come and have my baby and leave, not so many days in bed" and "this is not the way it is suppose to be." Mothers faced uncertainty over the length of hospital stay. "I just want to know if I am going to stay here or not" and "I feel lonely in here so hopefully I will get out tomorrow."

Fear of Baby Being Sick

Many of the high-risk mothers voiced feeling fearful. Their concerns included fear regarding the health of the baby, or if the baby would even survive. Other mothers verbalized apprehension that their baby would need to be hospitalized in the Neonatal Intensive Care Unit (NICU) for a prolonged period. "I am worried obviously, I mean it is stressful…worrying about this one, making sure that he stays in there as long as he can."

The fear of not having a healthy baby was voiced by many of the high-risk mothers. "Um, that they don't have birth defects, they get here, they're gonna be preemies or full term." Mixed emotions were felt by some. "I felt happy and scared about the baby coming early…I lost two babies…at 19 and 21 weeks."

Fear of having preterm babies was expressed by many of the participants. "I am scared really scared. I have a fear that the baby will come early and have lifelong problems." A common concern of mothers with pregnancy complications was the health

of the baby. "I just don't want to see my baby born too little" and "I just worry my baby will be sick."

Another mother responded:

I just get sad thinking like I don't want to have to see my baby
with all those tubes in her cause I know they're gonna
have to do it cause she's still gonna be real tiny. I don't
want to have to see stuck to all those machines.

"…it really worries me that she's gonna be fine…whenever I have her I just want her to be able to go home with me, I don't want her to stay in the hospital."

Leaning on Faith

Depending on Prayer

Faith, hope, and spirituality were frequent responses from the participants. Many high-risk mothers prayed for the health of their unborn children. " I pray for the health of my baby. I am stressed and depressed" and "I have trust in God and he would help me and our baby girl to get better and stronger, so we can be together as a family again."

For some of the mothers prayer was a greater support than family members. "First, I always pray on my own, but I just believe in God. Then if I need some support well I can turn to my husband. (I get support from) My mom, my sister, but somewhat basically I pray on it first."

Spirituality and faith were included in the participants' responses. "I trust, and I believe in God. I believe God is gonna help me through everything and He won't leave

me, and everything is going well." When a healthy baby was born, some mothers believed it was to prayer. "I prayed for a long time to have a baby, it's like a dream come true."

God is in Control

The importance of spirituality as a coping mechanism was evident in these mothers' statements. "God is number one…He gave me this chance to have another child." Responses also included, "God's going to work everything out" and "I believe God does things for a reason" and "children are a gift from God."

Faith and believing in God were coping strategies. "I just know God is going to provide" and "I trust and believe in God. I believe God is gonna help me through everything." "But I have trust in God and He would help me, and our baby girl get better and stronger."

Teaching Children to Know God

> Some mothers had faith, but they want their children to know God as well. I want my baby to have the same values and to have the same, to trust in God, to know God that's my main concern. Yes, I want her to know God. I am not concerned that something will happen, I have faith.

Hope

Even though the mothers with pregnancy complications were on bed rest, many of them still voiced hope and planning for the future. Hope was verbalized by high-risk mothers.

Hope for the Health of the Baby

Some of the high-risk mothers relied on hope. "I hear the baby's heartbeat and it's 100% normal…hopefully they will do everything they can to keep her alive." Many mothers hoped that their child would be healthy. "If he came out early, they'd have to keep him here…but they said the hospital is really good so, he'll be in good hands, so that is really good." Mothers had hope that their babies would be full term. "Hopefully I'm gonna get to full term. I get further enough where he be able to survive outside the womb."

Planning for the Future

High-risk mothers indicated they planned for the future. They visualized what life would be like after discharge. "Eventually I will get out of here (the hospital) you know" and "I just want him to be healthy…I really don't want him to be preterm…I want to be able to take him home with me and hold him."

Preparing for the baby to come home was frequently discussed by the participants. "We painted his room, we bought the bassinet and car seat and stroller…we've been preparing since we found out it was a boy." Additional statements from the participants included planning for the baby to come home. "The nursery at

home is ready for the baby" and "I bought new stuff…I bought a bassinet. So, I am planning once I get back to go buy a couple of things." Additional responses indicated planning for life with the baby at home. "We've gotten furniture for the baby. The last 6 months have been all about the babies" and "the nursery at home is all ready for the baby". Planning occasionally went further than bringing the baby home. "After I have my child I plan to get a job and work on getting us a place, a stable home. Probably through the housing authority or something by getting a job and putting the kid in daycare."

Acceptance

Willing to do What it Takes

Acceptance was frequently used as a maternal coping behavior. Compliance with bed rest, coming to terms with the occurrence of high-risk pregnancy and hospitalization was voiced by the participants. "(It is) something I just have to accept." "I'm on complete bed rest. That's about all we can do."

> Bed rest is just what has happened for the baby's sake and it's temporary…what's keeping my mind from going crazy in here it's just has to be done. We are trying to keep the baby in as long as possible.

Bed rest is difficult for most mothers, but they were willing to do what it takes:

> I am willing to cope with everything that the doctors want me to do for the health of my baby. So far right now I have to be

in bed rest and try to keep pregnant for more time and wait for the right time.

Participants verbalized acceptance of bed rest. "I was upset, I cried why this happen to me but now I accept reality" and "I guess the hard part is being in this bed all day but other that the good thing, the good part about it is feeling it move and growing and getting excited to see it."

Bed rest created hardships for the mothers and their responses reflected coping behaviors. "But I'm pushing through" and "I've tried to adjust my emotions", "umm, scared at first but me and my husband we just came to terms with it". It was difficult for some mothers to accept their situation. Mothers verbalized "I just get tired of being here. You know I was expecting to come and have my baby and leave in 2-3 days, not be so many days in the bed" and "I try not to think about myself as a mother, I really don't want it."

Knowledge Seeking

One recurrent theme voiced by the high-risk mothers was the need for information regarding their high-risk pregnancy diagnoses and the neonatal implications. The mothers frequently responded that information regarding high-risk pregnancies and premature neonatal care assisted with their expectations and understanding of their high-risk condition. Information reduced maternal anxiety and fear of the unknown.

Most of the study participants responded positively to receiving educational materials regarding, pregnancy, childbirth, and care of a premature infant. Education and

information sharing may result in decreased stress for participants hospitalized with pregnancy complications. "I've been reading this book the nurse gave me."

March of Dimes

The March of Dimes is an organization that works to provide resources for mothers and children to reduce morbidity and mortality. The organization provided many mothers with educational material and tours of the NICU. Several mothers commented on the help they received from the March of Dimes. "I received a tour of the NICU. It was scary, but I have read the information given to me by the March of Dimes. Looking at the preemie videos make me nervous. I am afraid how I will handle myself."

There were other comments from the high-risk mothers. "And everybody come in here, yes, the March of Dimes came and they brought me some materials" and "I feel more at ease when the doctors and nurses explain everything. The March of Dimes gave me information and now I am not in the dark." "The March of Dimes came by and gave me some information: pamphlets and videos."

Peer Support Groups

Sharing experiences with other mothers seemed to mitigate some of the negative implications of bed rest. One mother verbalized:

> I've talked to mothers who've had younger babies too and the important thing is that the baby gets good care and umm they'll help you do everything that a mother should do and for the most part it

should turn out well, that's what usually happens.

Hospital educators were appreciated. "My husband and I were not able to attend childbirth classes due to bed rest. The childbirth educator gave us a special class and we feel more at ease as to what to expect." Hospital classes were well attended. "I go to parenting classes every Wednesday as the source for women and "…they are having a meeting Wednesday I am gonna participate in."

Internet, TV Shows

Numerous mothers voiced finding information about childbirth on the internet and television programs. Mothers stated, *"*I go look on the internet all the time about the stuff mainly I go through", and "I look at books, read books, and I looks at the newborn channel a lot."

Many of the mothers hospitalized on bed rest watched childbirth shows on television. Some described the program, "A Baby Story" and responded that it helped to manage their expectations of childbirth.

Healthcare Team

Participants and their family responded positively to information received from the health care team. Explanation of procedures and letting the mothers know what to expect appeared to lessen anxiety. A statement by one mother emphasized her confidence in the health care team. "The doctors and nurses pretty much explain everything to me so…I'm fine as long as they tell me my baby happy and health, then I'm ok too."

Detailed explanations increased understanding and provided insight into pregnancy complications.

> They (the doctors and nurses) explain everything even the
>
> single tasks they are doing and why they are doing it.
>
> They tell me what to expect and what to look forward to
>
> so, I am not in the dark.

Support Enhances Maternal Coping

Bonding with Husband/Partner/Father of the Baby

Mothers indicated they have bonded "more than ever" with their husband/partners. "We have bonded...I get a lot of support from my husband." There was a sense that husbands/partners were gentle and reassuring. "I rely on my husband the most, physically he is more gentle…I'd say he's more tender and wants to make sure that I'm not moving" and "he's reassuring and understanding, he is excited about the pregnancy…we've grown closer."

Husbands/partners acted like coaches. "He tries to keep my spirits up" and "he has been there for me…he takes care of everything." "(We have) grown closer knowing that we have always been close, can talk and everything but I just feel really kinda closer." "My husband is my support for sure." "(The) person closest to me is the father, no one else."

While most of the high-risk mothers verbalized a positive response regarding the father of the baby, others did not. "I am worried if he is cheating or not." Relationship

discord was verbalized by other mothers. "My partner and I have been having some rough times…he believes in physical discipline and I don't…he has his views and I've had mine and we are not backing down." "I am stressed out with my boyfriend…he is devious, and I try not to think of him…I can't even hold a decent conversation with him. He hasn't seen me since I've been here."

Support from Mother, Family Members

Some high-risk pregnant women received support from family members such as in-laws, children, grandparents, and mother-figures. Examples of additional family members that provide support were voiced by the high-risk mothers. "I think my aunt, I'm close to her, I know that if something is wrong I can talk to her and she will try to help me." "My sister and a relative, a cousin, we are very close. Yes, we talk every day we are very close" and "…my daughter, my sister-in-law, my mom."

For many participants, there was a special bond with their mothers. "(My mom) like I see her as a sister. Yep, like maybe cause she's always had trust in each other…tells me her problems, I tell her mine." Friendship also described a mother's bond. "My mother is also there for me. We are really good friends." Other mothers looked to their mother for support and wanted to be like her:

> My mom she is really supportive, so I want to be like her and she is always been there for us when we needed…when we have a problem or anything or need somebody to talk to, I always know she is there.

Other participants voiced that they wanted to be the same way that their mother was to them. " I want to be the way my mom was with me cause I love my mom and I think she's been a real good mom, I wish, I hope I can be the same (type of mom)." One mother responded that her mother was taking care of her during hospitalization:

> You know I really admire my mother…She, she takes care of me I mean she's here every day at the hospital with me night and day and umm, you know I just hope my daughter feels the love I have for my mother.

Confidence in the Medical Team

Many mothers believed the health care team were doing all that they could. "The nurses and doctors are doing a great job" and "I love my doctor, I've been with him for 12 years." "The doctors are doing the best they can".

Mothers verbalized confidence in the health care team. "They got me on some new medication that is, you know, gonna agree with me and the baby, make sure me and the baby stays healthy" and "I am a little more eased cause I'm her and I know I'm in a good environment and they be able to watch me and monitor." In addition, trust was portrayed in one mother's response. "I know my baby's health and my health are at the best interest of my doctor…I trust him and believe everything will be ok."

Mixed Methods Results

Table 4

Convergence or Divergence of the Transcript Data to the Brief Cope Scale Results

Quantitative Results (*M, SD*) Coping Behaviors	Qualitative Transcript Quotes	Convergence or Divergence
Emotional Support (3.28, 0.966)	The person closest to me is the Father no one else. We bonded more than ever…I got support from my husband. My husband is my support for sure. I want my husband in the delivery room.	Convergence
Positive Reframing (3.22, 0.940)	I feel very supported here. I feel safe. I hear the baby's heart beat it is 100% normal. But I know every is going to work out and we'll figure something out. The nursery is all ready for the baby.	Convergence
Religion (3.19, 1.022)	I believe God does things for a reason. I prayed for a long time… I always pray on my own I believe in God…basically I pray first. I am a strong believer in God. I've been praying every day.	Convergence
Acceptance (3.14, 0.965)	…something I just have to accept …making sure I stay here and lay down and do what the doctors say …me and my husband just came to terms with it.	Convergence

Convergence or Divergence of the Transcript Data to Brief Cope Scale (continued)

Quantitative (*M*, *SD*) Coping Behaviors	Qualitative Transcript Quotes	Convergence or Divergence
Instrumental Support (3.05, 0.966)	(I need) counseling, psychiatry cause I done been through postpartum depression. I know my baby's health and my health are in the best interest of my doctor. I have feel comfortable with the decisions he has made. I am getting advice from my mother on how to take care of the baby.	Convergence
Planning (3.01, 1.02)	I plans to purchase a car and buy a house, I'm thinking about being able to go home. I've set up the nursery, I'm prepared. I missed my own baby shower we will have it here.	Convergence
Active Coping (2.89, 0.899)	Well right here's hurt some I'm lonely in here I try not to think about the baby I really don't want it. I get tired of being here…I was expecting to come and have my baby and leave in 2-3 days*	Divergence
Self-distraction (2.45, 1.066)	… trying to keep everything off my mind as much as possible I look at the internet a lot	Convergence

** No maternal responses to active coping were available in the transcripts. The examples here are divergent or opposite from the active coping behavior.*

Convergence or Divergence of the Transcript Data to Brief Cope Scale (continued)

Quantitative (M, SD) Coping Behaviors	Qualitative Transcript Quotes	Convergence or Divergence
Humor (2.01, 1.10)	No study participants implemented humor as a coping mechanism. The criteria "I've been making jokes about it" did not appear in the review of the transcripts.	Divergence
Venting (1.86, 1.01)	…when you so a problem you try to work on it and don't cry or go crazy over it. …I don't really think about the future right now until I cross this hump	Convergence
Substance Use (1.06, 0.334)	No study participants responded during their interview that they had used substances during their pregnancy,	Divergence
Self-blame (1.55, 0.888)	Pregnancy has been rough, I'm going through a lot trying to take care of myself and other children. I feel guilty because I am in the hospital. I hope I didn't cause this.	Convergence
Denial (1.49, 0.894)	No transcripts of the high-risk mothers reflected denial. The Brief Cope Scale: I've been refusing to believe this has happened.	Divergence
Behavioral Disengagement (1.30, 06.44)	No transcripts revealed the criteria. The Brief Cope Scale reflects "I've been giving up trying to deal with it" and "I've been giving up trying to cope."	Divergence

Discussion

Data sets for this parallel convergent study are presented in a joint display (see Table 3). The side-by-side data presentation allows the researcher to merge the data and interpret the results in a single representation. Merging of the quantitative and transcript qualitative data sets is referred to as triangulation. Triangulation allows the researcher to combine data sets resulting in a deeper understanding of the study findings. Results from merging the data sets allows for defining how the data sets fit together as convergence or divergence to form a more profound meaning. Convergence means the two data sets complement each other. Divergence refers to data sets that contradict each other or show incongruencies between the data sets (Creswell & Creswell, 2018).

Adaptive coping behaviors for the high-risk mothers were measured by the Brief Cope Scale and indicated convergence when triangulated with the qualitative data. The quantitative data that indicated convergence with the transcript data were planning, positive reframing, acceptance, religion, using emotional support, using instrumental support and self-distraction. However, some maladaptive coping behaviors also resulted in convergence including venting, substance use and self-blame.

When the data were compared, several coping behaviors were considered divergent. The behaviors were active coping, humor, denial, and behavioral disengagement.

For this study, the participants answered the survey on the Brief Cope Scale. The response ranged from "1 - I haven't been doing this at all" to "4 – I've been doing this a

lot." The mean score for each coping behavior was presented in Table 3. The coping behaviors with the highest mean scores were using emotional support (*M* = 3.28), positive reframing (*M* = 3.22), religion (*M* = 3.19), acceptance (*M* = 3.14), using instrumental support (*M* = 3.05), and planning (*M* = 3.01).

For the most frequently used coping behaviors, these are some of the survey items.

- I've been getting emotional support from others.
- I've been looking for something good in what is happening.
- I've been trying to find comfort in my religion or spiritual beliefs.
- I've been accepting the reality of the fact that this has happened.
- I've been trying to get advice or help from other people about what to do.
- I've been thinking hard about what steps to take.
- I've been trying to come up with a strategy about what to do (Carver, 1997)

The less frequently used coping behaviors by the high-risk mothers were active coping (*M* = 2.89), self-distraction (*M* = 2.45), humor (*M* = 2.01), venting (*M* = 1.87), self-blame (*M* = 1.55), denial (*M* = 1.49), behavioral disengagement (*M* = 1.30), and substance use (*M* = 1.06).

For the least frequently used coping behaviors by the high-risk participants, these are some of the survey items.

- I've been taking action to try to make my situation better.
- I've been turning to work or other activities to take my mind off things.

- I've been making jokes about it.
- I've been blaming myself for things that have happened.
- I've been saying to myself "this isn't real".
- I've been giving up trying to deal with it.
- I've been saying things to let my unpleasant feelings escape.
- I've been using alcohol or other drugs to help me get through it (Carver, 1997).

The findings of the study indicated adaptive coping mechanisms used frequently by the high-risk mothers. Emotional and instrumental support were convergent with higher mean scores. This indicates that support from spouses and partners, mothers, other family members, and the healthcare team were important to the participants. In addition, religion and positive reframing were also two coping behaviors that were frequently used. In contrast, denial, self-blame and substance use were not coping behaviors identified by the participants as frequently used.

Triangulation of Qualitative and Quantitative Results

Triangulation of the results of two different analysis methods reveals a multifaced aspect of reality (Denzin, 1989). Triangulation of the study results led to a deeper meaning of the "lived experience of high-risk mothers hospitalized and prescribed bed rest." Emotional support, religion, and acceptance were convergent in both the qualitative thematic and quantitative analysis results. The results of the qualitative thematic analysis also added insight into the participants need for knowledge about their high-risk diagnoses. The Brief Cope Scale did not measure "knowledge seeking". However, the

Brief Cope Scale revealed "information seeking" was a frequent coping mechanism. In synthesizing the qualitative and quantitative results together, we learn that there was a need for information and that the mothers actively sought knowledge through the March of Dimes, tours of the NICU, support groups, the internet, and written materials.

The qualitative analysis revealed that the high-risk mothers voiced fear concerning the health and survival of their babies. The Brief Cope Scale did measure fear. Salient statements from the high-risk mothers provided insight into the feelings of fear. The Brief Cope Scale quantitative findings and the qualitative analysis suggested the use of coping behaviors that could potentially mitigate maternal feelings of fear such as acceptance, faith, hope, emotional and knowledge/informational support.

There were areas of divergence. The Brief Cope Scale indicator of positive reframing was the second highest coping behavior. This behavior, however, was not revealed in the qualitative thematic analysis.

In addition to fear, the Brief Cope Scale did not measure Family Burdens. The mothers' salient statements strongly indicated coping with Family Burdens was part of the "lived experience". Burdens for the high-risk family included maternal grieving for the children at home, change in spousal roles, financial burden and maternal guilt. The interview allowed the mothers to verbalize the hardships the families had experienced due to the high-risk maternal hospitalization.

The Brief Cope Scale findings indicated that high-risk pregnant women on bedrest use venting, self-distraction, humor, substance use, denial, and behavioral

disengagement to a lesser degree. The qualitative thematic analysis did not reveal these coping behaviors.

CHAPTER V

SUMMARY OF THE STUDY

The aim of this secondary analysis was to examine coping in high-risk mothers hospitalized for pregnancy complications and prescribed bed rest. By identifying the coping behaviors of high-risk pregnant women hospitalized and prescribed bed rest, antepartum care may be improved leading to optimum birth outcomes and potentially decreasing the emotional trauma to hospitalized mothers. Antepartum care by the health care team can enhance adaptive coping skills and recognize maladaptive coping behaviors. Adaptive coping behaviors may mitigate the negative side effects of antepartum bed rest.

Two research questions were the focus of this study. The quantitative part of this study was to answer: "What coping behaviors are used by high-risk pregnant women hospitalized and prescribed antepartum bed rest?" The qualitative portion of the study was to understand: "What is the lived experience of high-risk pregnant women coping with hospitalization and prescribed antepartum bed rest?"

Statistical analysis of the data from the Brief Cope Scale was analyzed. The quantitative data set was integrated with the transcripts to determine if the results met the criteria of convergence or divergence. Compared compatible data were considered convergent. Incongruent data were considered divergent. In the analysis of the Brief Cope Scale and the transcripts, convergent coping behaviors were emotional support, positive

reframing, religion, instrumental support, planning, venting, self-distraction, and acceptance. Even though the coping behaviors of substance use and self-blame may be maladaptive, these coping skills were also convergent. Divergent maternal coping skills were active coping, humor, denial, and behavioral disengagement.

A simple thematic qualitative analysis was performed on the qualitative data set. Themes that resulted from the analysis were Family Burdens, Fearfully Waiting, Leaning on Faith, Hope, Acceptance, Knowledge Seeking, and Support. The results of this thematic qualitative analysis were triangulated with the findings of the Brief Cope Scale. Merging these results enhanced the understanding of the experience of high-risk pregnant women coping with antepartum bed rest.

Discussion of the Findings

Many of the study findings were similar to those found in the literature. Spiritual belief and social support were two coping behaviors that were found to assist high-risk mothers to adapt to the side effects of bed rest. Emotional support was the coping behavior ranked the highest in this study. In the literature review, Cihan et al. (2017) and Janighorban et al. (2018) identified the support needs of high-risk women on bed rest. Some of the support needs verbalized by the participants were support from spouses, relatives, friends, and doctors. Additional needs were psychosocial support for family, support for looking after children, and economic support. All of these issues were identified in this study. Participants identified their spouse/partner as the person they were

closest to and had "bonded more than ever with." Other needs were identified in this study including financial strain, care of the children and instrumental support from the health care team.

Coping with religion was a convergent finding of this study. Participants responded that they frequently depended on prayer, God and their faith. Cihan et al. (2017) reported that they found women in the high-risk group depended more on faith than those in the low-risk group.

Fear was a frequent theme represented by the mothers' responses. The theme of fear was linked with other coping behaviors such as support from husband/spouse, positive reframing, religion, acceptance, planning, and instrumental support. Divergent coping behaviors that scored lower were active coping, humor, substance use, denial, and behavior disengagement.

Lazarus and Folkman (1984) described two categories of coping strategies, problem-focused and emotion-focused. Coping strategies, which are emotion-focused, are *active and passive avoidance and escaping*. Problem-focused coping implemented strategies are *planning how to change the stressor, seeking practical or informational support, and confronting the stressful situation*.

According to Lazarus and Folkman (1984) problem-focused coping is more effective than emotion-focused coping behaviors. Results from this study support the theoretical framework. Passive avoidance and escaping (denial and behavioral disengagement) were divergent findings in this study. Seeking social support, knowledge/information seeking,

hope and acceptance enhanced adaptive coping behaviors and study findings indicated convergence.

High-risk mothers that utilize problem-focused coping are for the most part more goal oriented, seek informational and social support, and confront the stressor. In contrast to problem-focused coping, the use of maladaptive coping is less effective (Gourounti et. al., 2013; Lazarus & Folkman, 1984).

Gaps in literature were found in relationship to interventional studies that could represent enhancement of coping skills. No studies have analyzed enhancement of positive coping behaviors in high-risk mothers that improved outlooks of the high-risk situation after specific interventions.

Limitations

The limitations of this study are related to small sample size that minimizes the extent of generalizing the results. In addition, all the high-risk mothers were hospitalized in the same antepartum unit. The participants had varying diagnoses, weeks gestation and number of days on bed rest. A wide range of demographic data included ethnicity, age, socioeconomic status, educational level, and marital status. Potential extraneous variables make stability of the findings difficult to control such as gravida/para, previous pregnancy loss, and degree of pregnancy complications. The data for this study was collected between 2010 and 2013 making the age of the data a limitation. Qualitative secondary analysis of the participant's transcripts also limits the study to data that has already been collected.

Conclusion and Implications

High-risk mothers that are hospitalized are confronted with many challenges in managing their psychosocial status. Birth outcomes can be optimized with positive coping behaviors. Positive coping behaviors can be facilitated by the health care team. Support from husbands/fathers, relatives and friends may be helped by open visiting hours. A liberal visitation policy, for the mothers to hold special events such as baby showers and family sleepovers enhance emotional support. Children of high-risk mothers should be allowed lengthy and open hours visitation. A child-friendly playroom may enhance visits between mothers and their children.

With faith, mothers should have open access and frequent encounters with clergy who align with their religious beliefs. Worship services need to be available to the hospitalized mothers as well as visitation and religious ceremonies from clergy.

Information can be made available through many modalities. High-risk mothers should have access to technology such as laptop computers and cell phones. This may enhance not only communication with support systems but provide a source of available information. The healthcare team has been identified as serving as a major source of information. The doctors and nurses should provide the participants with explanations and resources for high-risk mothers. Some of the resources include the March of Dimes, preemie support groups, high-risk mother peer groups, tours of the NICU and access to a childbirth educator that can give private classes at the bedside.

Acceptance of their high-risk condition can be facilitated through information,

understanding of their diagnoses and celebration goals as they continue on bed rest. Reaching each week of the gestational age can be a small celebration for the high-risk mother which may offer hope to deal with prolonged bed rest.

Access to a social worker may ease the burden of financial stress for the high-risk mother. Social workers may give the access to available resources for childcare, financial support and options for housing.

Mothers with maladaptive coping behaviors of self-blame, denial, substance abuse, humor, and behavioral disengagement, psychological services should be made available. Mothers with ineffective coping behaviors frequently experience depression and anxiety. However, it has been reported that less than 5% receive psychological service when hospitalized for high-risk pregnancy (Byatt et al., 2014). All mothers should be screened for depression and anxiety while prescribed bed rest. Appropriate psychological services need to be offered. There is a possibility that birth outcomes could be improved if levels of depression and anxiety are minimized in high-risk mothers.

Recommendation for Further Studies

There are future research studies that may add additional findings assisting with the care of high-risk women experiencing bed rest. Qualitative studies that view high-risk pregnancy from the perspective of the husband/spouse and children may add an in-depth knowledge to the burdens experienced by the family.

Randomized control trials that provide treatment protocols could potentially mitigate the trauma caused by bed rest. Modified bed rest, in allowing the high-risk mothers to

ambulate several times per day could decrease the amount of physical and psychosocial effects of complete bed rest.

Changing the environment either from bedrest at home or improving the function of antepartum units needs to be investigated. Family centered antepartum units, where family may stay with the mother also needs to be explored.

Summary

High-risk mothers hospitalized and prescribed bed rest experience an often unexpected life event. They cope with heavy family burdens and their own fear. Emotional support, seeking knowledge, receiving information, positive reframing, hope, religion, and acceptance are adaptative coping mechanisms that appear to enhance a positive maternal outlook. Substance use, denial, and behavioral disengagement are coping behaviors that may cause increased maternal depression and anxiety.

Triangulation of the transcript data and results of the Brief Cope Scale allowed for a deeper analysis of the study data. The "lived experience of high-risk pregnant women hospitalized and prescribed bed rest" resulted in themes the Brief Cope Scale does not measure. Understanding the needs of the high-risk participant were explored from the maternal responses that revealed the themes of hope, family burdens, and information seeking. Without triangulation these themes may not have become apparent. A richer meaning to the participants' survey answers were realized through triangulation.

REFERENCES

Accott, E. E., Cheadle, A. C. D., & Dunkel Schetter, C. (2015; 2014). Prenatal depression and adverse birth outcomes: An updated systematic review. *Maternal and Child Health Journal*, *19*(6), 1306-1337. doi: 10.1007/s10995-014-1637-2

Amoyi, N., Fernandez, A., Ng, R., & Fehon, D. (2016). Measuring coping behavior in liver transplant candidates: A Psychometric analysis of the Brief Cope. *Progress in Transplantation 26*, 277–285. doi:10.1177/1526924816655253.

Bansil, P., Kuklina, E., Meikle, S., Posner, S., Kourtis, A., Elllington, S., & Jamieson, D. (2010). Maternal and fetal outcomes among women with depression. *Journal of Women's Health*, *19*(2), 329-334. doi:10.1089/jwh.2009.1387.

Bigelow, C & Stone, J. (2012). Bed rest in pregnancy. *Mount Sinai Journal of Medicine: A Journal of Translational and Personalized Medicine*, *78*(2), 291-302. doi:10.1002/msj.20243

Brandon, A., Madhukar, T., Hyman, L., Miltenberger, P., Broussard, D., Rifkin, J. & Stringer, A. (2008). Prenatal depression in women hospitalized for obstetric risk. *Journal of Clinical Psychiatry 69*(4). 635-643. Retrieved from http://www2.psychiatrist.com/jcp/Pages/home.aspx

Braun, V. & Clark, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77-101. doi:10.1191/1478088706qp063oa

Byatt, N., Hicks-Courant, K., Davidson, A., Levesque, R., Mick, E., Allison, J., & Simas, T. A. M. (2014). Depression and anxiety among high-risk obstetric inpatients.

General Hospital Psychiatry, 36(6), 644-649. doi.org/10.1016/j.genhosppsych.2014.07.011

Carver, C. S. (1997). You want to measure coping but your protocol too long: Consider the Brief Cope. *International Journal of Behavioral Medicine, 4*(1), 92-100. Retrieved from https://link.springer.com/journal/12529

Carver, C. S., Pozo, C., Harris, S. D., Noriaga, V., Scheier, M. F., Robinson, D. S., Ketcham, A. S., Moffit, P. L., & Clark, K.C. (1993). How coping mediates the effects of optimism on distress: A study of women with early-stage breast cancer. *Journal of Personality and Social Psychology*, *65*, 375-390. Retrieved from: https://www.apa.org/pubs/journals/psp/

Chiang-Hanisko, L., Newman, D., Dyess, S., Piyakong, D., & Liehr, P. (2016). Guidance for using mixed methods design in nursing practice research. *Applied Nursing Research, 31*, 1-5. doi: libux.utmb.edu/10.1016/j.apnr.2015.12.006

Cihan, H., Dirilen-Gumus, O. & Erkenekli, K. (2017). Comparison of women with risk-free and high-risk pregnancy and family resilience. *Journal of Psychology and Behavioral Science, 5*(1), 25-30. doi.org/10.15640/jpbs.v5n1a3

Colaizzi, P. E. (1978). *Psychological research as the phenomenologist view it existential phenomenology*. NY: Oxford University Press.

Cooper, C., Katona, C. & Livingston, G. (2008). Validity and reliability of the Brief Cope in careers of people with dementia: The laser-as study. *The Journal of Nervous and Mental Disease, 196*(11), 838-843. doi: 10.1097/NVD.0b013e31818b504c.i

Creswell, J. W. (2015). *Concise introduction to mixed methods research.* Thousand Oaks, CA: Sage.

Creswell, J. W. & Creswell, J. D. (2018). *Research designs qualitative, quantitative, and mixed method approaches* (5th ed). Thousand Oaks, CA: Sage.

Denis, A., Michaux, P., & Callahan, S. (2012). Factors implicated in moderating the risk for depression and anxiety in high-risk pregnancy. *Journal of Reproductive & Infant Psychology, 30*(2), 124-134. doi:10.1080/02646838.2012.677020

Denzin, N. K. (1989). *The research act* (3rd ed). Englewood Cliffs, NJ: Prentice Hall.

Doorenbos, A. Z. (2015). Mixed method in nursing research: An overview and practical examples. *The Japanese Journal of Nursing Research, 47*(3), 207-2017. Retrieved from www.ncbi.nlm.nih/pmc/articlesPMC4287271.

Du Plessis, E., & Human, S. P. (2009). Reflecting on meaningful research': A qualitative secondary analysis. *Curationis*, *32*(3), 72-79. Retrieved from https://www.scielo.org.za/pdf/cura/v32n3/09.pdf

Dunn, L. L. & Shelton, M. M. (2017). Spiritual well-being, anxiety, and depression in antepartal women on bed rest. *Issues in Mental Health Nursing, 28*(11) 1235-1246. doi: 10.1080/016128407016515004.

Fiskin, G., Kaydirak, M. & Oskay, U. (2017). Psychosocial adaptation and depressive manifestations in high-risk pregnant women: Implications for clinical practice. *World Views on Evidence-based Nursing, 14*(1), 55-64. doi: 10.1111/wvn.12186.

George, A., Luz, R., De Tychey, C., Thilly, N., & Spitz, E. (2013). Anxiety symptoms and coping strategies in the perinatal period. *BMC Pregnancy and Childbirth, 13*(1), 223. doi: 10.1186/1471-2393-13-233

Giurgescu, C., Penckofer, B., Maurer, B., & Bryant, B. (2006). Impact of uncertainty, social support, and prenatal coping on the psychological well-being of high-risk pregnant women. *Nursing Research, 55*(5), 356–365. doi.org/10.1097/00006199-200609000-00008

Giurgescu, C., Zenk, S., Templin, T., Engeland, C., Dancy, B., Chang, G., Kavanaugh, K. Dieber, W., Misra, D. (2015). The impact of neighborhood environment, social support, and avoidance coping on depressive symptoms of pregnant African-American women. *Women's Health Issues, 25*(3), 294-302. doi:10.1016/j.whi.2015.02.001

Goldenberg, R. (2002). The management of preterm labor. *Obstetrics & Gynecology, 100*(5), 1020–1037. doi.org/10.1016/S0029-7844(02)02212-3

Gourounti, K., Anagnostopoulos, F., & Lykeridou, K. (2013). Coping strategies as a psychological risk factor for antenatal anxiety, worries, and depression among Greek women. *Archives of Women's Mental Health, 16*(5), 353-361. doi: 10.1007/s00737-013-0338-y

Guardino, C., & Dunkel Schetter, C. (2014). Coping during pregnancy: A systematic review and recommendations. *Health Psychology Review, 8*(1), 70-94. doi.org/10.1080/17437199.2012.752659

IBM, (released 2017). *SPSS Statistics for Windows, Version 25.* Armonk, NY: IBM Corp.

Joanna Briggs Institute (2012). *Health Environment Research and Design, 7*(4), 120-134. Retrieved from www.joannabriggsinstitute.org

Janighorban, M., Heidari, Z., Dadkhah, A., & Mohammadi, F. (2018). Women's needs on bed rest during high-risk pregnancy and postpartum period: A qualitative study. *Journal of Midwifery & Reproductive Health, 6*(3), 1327–1335. doi.org/10.22038/jmrh.2018.28162.1304

Kent, R., Yazbek, M., Heyns, T., & Coetzee, I. (2015). The support needs of high-risk antenatal patients in prolonged hospitalisation. *Midwifery, 31*(1), 164-169. doi:10.1016/j.midw.2014.08.003

Kim, Y., & Park, Y. (2018). Effect of structured bed exercise on uterine contractions, fetal heart rate patterns, and maternal psychophysical symptoms of hospitalized high-risk pregnant women: A randomized control trial. *Asian Nursing Research, 12*(1), 1–8. doi.org/10.1016/j.anr.2017.12.003

Lazarus, R. S. & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer.

Lazarus, R. S. & Folkman, S. (1987). Transactional theory and research on emotions and coping. *European Journal of Personality, 1*, 146-169. doi: 10.1002/pcr.2410010304

Lazarus, R. S. (1999). Hope: An emotion and a vital coping resource against despair. *Social Research*, 653-678.

Lederman, R. P. & Weiss, K. (2009). *Psychosocial adaptation in pregnancy: Assessment of seven dimensions of maternal development*. NY: Springer Publishing Co.

Lederman, R. P., Boyd, E., Pitts, K., Roberts-Gray, C., Hutchinson, M., & Blackwell, S. (2013). Maternal development experiences of women hospitalized to prevent preterm birth. *Sexual & Reproductive Healthcare, 4*(4), 133-138. doi:10.1016/j.srhc.2013.10.004

Lincoln, Y. & Guba, E. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.

Lowe, P., Powell, J., Griffths, F., Thorogood, M. & Locock, L. (2009) "Making it all normal": The role of the internet in problematic pregnancy. *Qualitative Health Research, 19*(10), 1476-1484. doi:10.1177/1049732309348368.

Lujan, B., White, R., & Barber, H. (1994). *Human physiology in space: A curriculum supplement for secondary schools.* Washington, DC: National Aeronautics and Space Administration.

Maloni, J. A. (2010). Antepartum bed rest for pregnancy complications: Efficacy and safety for preventing preterm birth. *Biologic Research for Nursing, 12*(4), 106-124. doi: 10.1177/1099800410375978

Maloni, J. A. (2011). Lack of evidence for prescription of antepartum bed rest. *Expert Review of Obstetrics & Gynecology, 6*(4), 385-393. doi:10.1586/eog.11.28

March of Dimes, (2016). *Report Card*. Retrieved from www.marchofdimes.org./mission/prematurity-reportcard

McCall, C., Grimes, D., & Lyerly, A. (2013). "Therapeutic" bed rest in pregnancy unethical and unsupported by data. *Obstetrics and Gynecology, 12*1(6), 1305-1308. doi:10.1097/AOG.0b013e318293f12f

McCarty-Singleton, S., & Sciscione, A. C. (2014). Maternal activity restriction in pregnancy and the prevention of preterm birth: an evidence-based review. *Clinical Obstetrics and Gynecology, 57*(3), 616-627. doi:10.1097/GRF.0000000000000048

Mahmoud, J. S. R., Hall, L. A., & Staten, R. (2010). The psychometric properties of the 21-item Depression, Anxiety, and Stress Scale (DASS-21) among a sample of young adults. *Southern Online Journal of Nursing Research, 10*(4), 21-34.

Morey, J. A. & Gregory, K. (2012). Nurse-led education mitigates maternal stress and enhances knowledge in the NICU. MCN: *The American Journal of Maternal Child Nursing, 37*(3), 182-191.doi:10.1097/NMC.0b013e.31824b4549.

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods, 16*, 1-13. doi: 10.1177/1609406917733847

Nunally, J. C. (1978). *Psychometric theory*. NY: McGraw-Hill

Nylen, K. J., O'Hara, M. W., & Engeldinger, J. (2013). Perceived social support interacts with prenatal depression to predict birth outcomes. *Journal of Behavioral Medicine, 36*(4), 427-440. doi:10.1007/s10865-012-9436-y

Oni, O., Harville, E., Xiong, X., & Buekens, P. (2015). Relationships among stress coping styles and pregnancy complications among women exposed to Hurricane Katrina. *JOGNN, 44*(2), 256-267. doi:10.1111/1552-6909.12560

Polit, D. F. & Beck, C.T. (2012). *Nursing research: Generating and assessing evidence for nursing practice* (9th ed). Lippincott, Williams & Wilkins

Pozzo M., Brusati, V. & Cetin, I. (2010). Clinical relationship and psychological experience of hospitalization in "high-risk" pregnancy. *European Journal of Obstetrics & Gynecology and Reproductive Biology, 149,* 136-142. doi: 10.1016/j.ejogrb.2009.12.2009.

Rubarth, L. B., Schoening, A. M., Cosimano, A., & Sandhurst, H. (2012). Women's experience of hospitalized bed rest during high-risk pregnancy. *JOGNN, 41*(3), 398-407. doi:10.1111/j.1552-6909.2012.01349.x

Sanguanklin, N., McFarlin, B. L., Finnegan, L., Park, C., Giurgescu, C., White-Traut, R. & Engstrom, J. L. (2014). Job strain and psychological distress among employed pregnant Thai women: Role of social support and coping strategies. *Archives of Women's Mental Health 17*(4), 317-326. doi: 10.1007/s00737-013-0410-7

Sarani, A., Azhari, S., Mazlom, S., & Aghammohamadiansherbaf, H. (2016). The relationship between coping strategies during pregnancy with perceived stress level in pregnant mothers. *Majallah-i Dānishgāh-i ʻUlūm-i Pizishkī-i Bābul, 18*(7), 7–13. Retrieved from https://doaj.org/article/c430435ec38840c8828faa60bfbf6bd4

Schlegel, L., Whalen, L., & Williamsen, M. (2016). Integrative therapies for women with a high risk pregnancy during antepartum hospitalization. *MCN, The American Journal of Maternal/Child Nursing, 41*(6), 356–362. https://doi.org/10.1097/NMC.0000000000000279

Straub, H., Adams, M., Kim, J. J., & Silver, R. K. (2012). Antenatal depressive symptoms increase the likelihood of preterm birth. *American Journal of Obstetrics and Gynecology, 207*(4), 329.e1-329.e4. https://doi.org/10.1016/j.ajog.2012.06.033.

Windle, P. E. (2010). Secondary data analysis: is it useful and valid? *Journal of PeriAnesthesia Nursing, 25*(5), 322-324. doi: 10.1016/j.jopan.2010.07.005

Appendix A

Texas Woman's University Institutional Review Board Approval

TWU
TEXAS WOMAN'S UNIVERSITY
DENTON DALLAS HOUSTON

Institutional Review Board
Office of Research
6700 Fannin, Houston, TX 77030
713-794-2480
irb-houston@twu.edu
http://www.twu.edu/irb.html

DATE: September 20, 2017

TO: Ms. Ellen Boyd
Nursing - Houston

FROM: Institutional Review Board (IRB) - Houston

Re: Exemption for Maternal Psychosocial Adaptation for High Risk Pregnant Mothers Hospitalized and Prescribed Bed Rest (Protocol #: 19783)

The above referenced study has been reviewed by the TWU IRB (operating under FWA00000178) and was determined to be exempt from further review.

If applicable, agency approval letters must be submitted to the IRB upon receipt PRIOR to any data collection at that agency. Because a signed consent form is not required for exempt studies, the filing of signatures of participants with the TWU IRB is not necessary.

Although your protocol has been exempted from further IRB review and your protocol file has been closed, any modifications to this study must be submitted for review to the IRB using the Modification Request Form. Additionally, the IRB must be notified immediately of any adverse events or unanticipated problems. All forms are located on the IRB website. If you have any questions, please contact the TWU IRB.

cc. Dr. Ainslie Nibert, Nursing - Houston
Dr. Wyona M. Freysteinson, Nursing - Houston
Graduate School

Institutional Review Board
Office of Research
6700 Fannin, Houston, TX 77030
713-794-2480
irb-houston@twu.edu
https://www.twu.edu/institutional-review-board-irb/

DATE: January 29, 2019

TO: Ms. Ellen Boyd
Nursing - Houston

FROM: Institutional Review Board - Houston

Re: Notification of Approval for Modification for Covergent Parallel Mix Method study on the Experience of Coping During High Risk Pregnancy and prescribed Bed Rest (Protocol #: 19783)

The following modification(s) have been approved by the IRB:

Title changed to: Covergent Parallel Mix Method Study on the Experience of Coping During High-Risk Pregnancy and Prescribed Bed Rest
The study is a secondary analysis of pre-existing data. In the mixed method design the qualitative portion will be of existing transcripts that have been de-identified and coded only with a number. The results of the Brief Cope Scale will be analyzed. Participant information has been de-identified and coded only with a number.

cc. Dr. Wyona M. Freysteinson, Nursing - Houston

Appendix B

IRB Approval University of Texas Medical Branch

utmb Health

Victoria McNamara, CIP
Research Regulatory Specialist

301 University Blvd.
Galveston, TX 77555-0158
O 409.266.9485
E vimcnama@utmb.edu

MEMORANDUM

TO: Ellen Boyd, RN, MSN, FNP-BC
Assistant Professor
School of Nursing

FROM: Victoria McNamara, CIP
Research Regulatory Specialist

DATE: September 7, 2017

RE: Not Human Subjects Research Determination

Project Title: ***Psychosocial Adaptation to Antepartum Hospitalization and Bed Rest for Mothers with Pregnancy Complications***

The UTMB Institutional Review Board (IRB) Chairman or designee reviewed the above-referenced project on September 7, 2017 and determined that this submission does not meet the definition of, "human subject research", as defined by the regulations at 45 CFR46.012 (d)(f) and at 21 CFR 56, as this project involves the use of data or specimens with no code or link that could allow re-identification of subjects. Therefore, this project does not require IRB approval or oversight.

If the goals and/or activities of the project change, or if new activities are proposed, please contact the IRB office so that we may determine whether or not the revised plan involves research with human subjects and would then require IRB review.

If you have any questions, please do not hesitate to contact the IRB office via email at IRB@utmb.edu.

utmb Health

Working together to work wonders.™

Institutional Review Board
301 University Blvd.
Galveston, TX 77555-0158
Submission Page

14-Dec-2018

MEMORANDUM

TO:	Ellen Boyd SON Masters Program 152100
FROM:	Vicki McNamara IRB Staff
RE:	IRB Staff Review Not Human Subjects Research Determination
IRB Number:	IRB #: 18-0277
TITLE:	A Convergent Parallel Mixed Method Study on the Experience of Coping During High-risk Pregnancy and Prescribed Bed Rest

The UTMB Institutional Review Board (IRB) Chairman or designee reviewed the above referenced project on **12-Dec-2018** and determined the procedures involved do not meet the definition of, "research with human subjects" as defined by both the Office of Human Research Protection regulations at 45 CFR 46.102(d)(f) and the FDA regulations at 21 CFR 56.

If the goals and/or activities of the project change, or if new activities are proposed, please contact the IRB office so that we may determine whether or not the revised plan involves research with human subjects and would then require IRB review.

If you haveany questions, please do not hesitate to contact the IRB office via email at IRB@utmb.edu.

Additional Information

No identifiers nor interaction with individuals.

Appendix C

Data Use Approval Letter from Dr. Lederman

utmb Health

June 11, 2017

Ellen Boyd, RN, MSN, FNP-C
Assistant Professor
Track Administrator Nurse Educator Program
University of Texas Medical Branch
School of Nursing
301 University Blvd.
Galveston, TX 77555-1029

Dear Ms. Boyd,

You have my permission to utilize the dataset from the research project entitled, "Prenatal Psychosocial Assessment of Hospitalized Gravidas at High Risk for Preterm Labor
and Delivery." I have previously forwarded and shared this dataset with you.

Please feel free to contact for any inquiries that may arise, or if I may assist you in any other way.

Sincerely,

Regina P. Lederman, RN, BSN, MN Ed, MA, Ph.D., FAAN,
Professor Emeritus, University of Texas Medical Branch
School of Nursing, and
Adjunct Professor, UT-Health Science Center,
School of Public Health Email: rlederma@utmb.edu

Appendix D

Demographic Data Form

Demographic Data Form—A 26-question self-report inquiry regarding patient's current status including age, marital status, education, occupation, prenatal care, annual income and additional information (Lederman & Weiss, 2009; Lederman et al, 2013).

1. ID# _____ 2. Site _____

Today's Date _____

Date of Birth: _____ 3. Age of Subject: _____ 4. Age of Husband: _____

5. Race of Husband: 1 = Hispanic ____ 2 = African American ____ 3 = Caucasian ____ 4 = Other _____

6. Delivery Due Date: _____

7. Number of weeks pregnant when prenatal data collected _____

8. Number of weeks pregnant at first prenatal visit _____

9. Marital Status: (Check one)

1 = Married with partner at home _____ 3 = Single with partner at home _____

2 = Married without partner at home _____ 4 = Single without partner at home _____

10. What is the highest grade you achieved in school?

1 = Did not complete high school _____ 5 = Bachelor's degree _____

2 = High School _____ 6 = Graduate degree _____

3 = Some College _____

4 = Associate Degree _____

Please list any degrees you earned:

_____

11. What is the highest grade your husband/partner achieved in school?

1 = Did not complete high school _____ 5 = Bachelor's degree _____

2 = High School _____ 6 = Graduate degree _____

3 = Some College _____
4 = Associate Degree _____

Please list any degrees your husband/partner earned:
_____

12. During this pregnancy have you been working?
0 = Unemployed _____
1 = Part-time work or student _____
2 = Full-time work or student, or work ½ time and student ½ time (equal full-time) _____

13. Is your husband or partner working?
0 = Unemployed _____
1 = Part-time work or student _____
2 = Full-time work or student, or work ½ time and student ½ time (equal full-time) _____

14. What is your occupation? _____
1 = Housewife _____ 5 = Student _____
2 = Unskilled _____ 6 = Semi-Professional (teacher, RN) _____
3 = Semi-skilled (teacher aide, secretary) _____ 7 = Professional ____
4 = Skilled _____

15. What is your Husband's or Partner's occupation?
_____
1 = Househusband _____ 5 = Student _____
2= Unskilled _____ 6 = Semi-Professional (teacher, RN) _____
5 = Semi-skilled (teacher aide, secretary) _____ 7 = Professional ____
6 = Skilled _____

16. What is your salary per year? _____

17. What is your Husband's or Partner's salary pre year? _____

18. What is your total monthly income? _____

19. Have you ever seen a psychiatrist or a counselor? 0 = No _____ 1 = Yes _____

When? _____ How often? _____

Please explain.
_____

20. How many times have you been pregnant? _____

21. How many premature deliveries have you had? (less than 37 weeks pregnancy)_____

22. Have you ever had a miscarriage or an abortion?
0 = No _____ 1 = Yes _____

Number of months pregnant and dates of miscarriages and abortions:
_____

23. During this pregnancy, how much do you smoke? (check one)
0 = Not at all _____
1 = Less than one pack/day _____
2 = One pack/day _____
3 = More than one pack a day _____

24. During this pregnancy, how much alcohol do you drink? (check one)

0 = None _____
1 = Two drinks a week _____
2 = One drink a day or every other day _____
3 = Two drinks a day _____
4 = More than two drinks a day _____

25. Do you take any drug substances such as marijuana or crack? 0 = No _____ 1 = Yes _____

26. Have you attended childbirth education classes? 1 = Yes ____ 2 = No _____

How long do you expect to be living at your present address?
_____

Appendix E

Brief Cope Scale

Brief Cope Scale

These items deal with ways you've been coping with the stress in your life since you found out you were going to have to have this operation. There are many ways to try to deal with problems. These items ask what you've been doing to cope with this one. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I haven't been doing this at all
2 = I've been doing this a little bit
3 = I've been doing this a medium amount
4 = I've been doing this a lot

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real.".
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to help me get through it.
12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.
14. I've been trying to come up with a strategy about what to do.
15. I've been getting comfort and understanding from someone.
16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.
18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do.
24. I've been learning to live with it.

25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.
27. I've been praying or meditating.
28. I've been making fun of the situation

Scales are computed as follows (with no reverse coding)

Self-distraction, items 1 and 19
Active coping, items 2 and 7
Denial, items 3 and 8
Substance use, items 4 and 11
Use of emotional support, items 5 and 15
Use of instrumental support, items 10 and 23
Behavioral disengagement, items 6 and 16
Venting, items 14 and 25
Positive reframing, items 12 and 17
Planning, items 14 and 25
Humor, items 18 and 28
Acceptance, items 20 and 24
Religion, items 22 and 27
Self-blame, items 13 and 26 (Carver, 1997)

Appendix F

Factor Analysis of The Brief Cope Scale

Factor Analysis of the Brief Cope Scale

Maternal Coping Behaviors	Factor Analysis
Active Coping	α = .68
Planning	α = .73
Positive Reframing	α = .64
Acceptance	α = .57
Humor	α = .73
Religion	α = .82
Using emotional support	α = .71
Instrumental support	α = .71
Self-distraction	α = .71
Denial	α = .54
Venting	α = .50
Substance use	α = .90
Behavioral disengagement	α = .65
Self-blame	α = .69

(Carver, 1997)

Appendix G

Brief Cope Scale Results: Frequently Used Coping Behaviors

Brief Cope Scale Results: Frequently Used Coping Behaviors

	M	*SD*	Response 1	% total	Response 2	% total	Response 3	% total	Response 4	% total
Self -Distraction										
Work activities	2.28	1.109	12	30.0%	13	32.5%	7	17.5%	4	20.0%
Other activities	2.68	1.023	7	17.5%	8	20.0%	16	40.0%	9	22.5%
Active Coping										
Doing something about situation	2.60	.955	5	12.5%	14	35.0%	13	32.5%	8	20.0%
Taking action	3.18	.844	1	2.5%	8	20.0%	14	35.0%	17	42.5%
Emotional Support										
From others	3.18	1.035	2	5.0%	12	30.0%	3	7.5%	23	57.5%
Receiving comfort	3.38	.897	1	2.5%	8	20.0%	6	15.0%	25	62.5%
Instrumental Support										
Advice from others	2.88	.992	4	10.0%	10	25.0%	13	32.5%	13	32.5%
Getting help from others	3.23	.931	2	5.0%	7	17.5%	10	25.0%	20	50.0%
Venting										
Letting unpleasant feelings go	1.88	1.042	19	47.5%	12	30.0%	4	10.0%	5	12.5%
Expressing negative feelings	1.98	1.0	16	40.0%	13	32.5%	7	17.5%	4	10.0%
Positive Reframing										
Seeing things more positive	3.03	1.074	5	12.5%	7	17.5%	10	25.0%	18	45.0%
Looking for good in what is happening	3.40	.810	1	2.5%	5	12.5%	11	27.5%	23	57.5%
Planning										
Trying to come up with a strategy	2.93	1.023	3	7.5%	13	32.5%	8	20.0%	16	40.0%
Thinking about what steps to take	3.10	1.008	3	7.5%	9	22.5%	9	22.5%	19	47.5%
Humor										
Making jokes	2.18	1.130	16	40.0%	7	17.5%	11	27.5%	6	15.0%
Making fun of situation	1.85	1.075	21	52.5%	9	22.5%	5	12.5%	5	12.5%
Acceptance										
Accepting situation	3.18	1.059	5	12.5%	4	10.0%	10	25.0%	21	52.5%
Learn to live with it	3.10	.817	1	2.5%	10	25.0%	13	32.5%	16	40.0%
Religion										
Comfort in spiritual belief and religion	2.93	1.141	6	15.0%	9	22.5%	7	17.5%	18	45.0%
Praying, meditating	3.45	.904	2	5.0%	5	12.5%	6	15.0%	27	67.5%

Appendix H

Brief Cope Scale Results: Less Frequently Used Coping Mechanisms

Brief Cope Scale Results: Less Frequently Used Coping Behaviors

	M	*SD*	Response 1	% total	Response 2	% total	Response 3	% total	Response 4	% total
Denial										
Saying to myself "this isn't real"	1.58	1.01	28	70.0%	5	12.5%	3	7.5%	4	10.0%
Refusing to belief this has happened	1.40	.778	29	72.5%	8	20.0%	1	2.5%	2	5.0%
Substance Use										
Using alcohol or drugs to feel better	1.08	.350	38	95.0%	1	2.5%	1	2.5%	0	-
Using alcohol or drugs to help me get through it	1.05	.316	39	97.5%	0	-	1	2.5%	0	-
Behavioral Disengagement										
Giving up trying to deal with it	1.35	.700	30	75.0%	7	17.5%	2	5.0%	1	2.5%
Giving up the attempt to cope	1.25	.588	33	82.5%	4	10.0%	3	7.5%	0	-
Self-blame										
Criticizing myself	1.40	.810	30	75.0%	6	15.0%	2	5.0%	2	5.0%
Blaming myself for what has happened	1.70	.996	23	57.5%	9	22.5%	5	12.5%	3	7.5%

Appendix I

Interview Session: A. Maternal Psychosocial Adaptation to Pregnancy

Interview Session: A. Maternal Psychosocial Adaptation to Pregnancy

1. Please feel free to tell me any concerns that are uppermost in your mind--whatever comes to mind.

2. Can you say to what extent this pregnancy was planned?; Initially wanted?; How does this compare to your feelings now?

3. Can you describe what the course of your pregnancy has been like? How are you feeling now? Do you have concerns about this pregnancy?

4. What do you think about most often when you think about the baby or yourself as a mother to the baby?

5. Do you think about what kind of mother you want to be? In what ways do you want to be like your mother? In what ways different? Has your relationship to your mother changed since you've been pregnant (or with prior pregnancies)?

6. How strong or serious are your doubts about being a mother and caring for the baby?

7. Who are the persons that are closest to you? that you rely on or turn to the most. Your partner? Your mother? Father? Siblings? Friends? A favorite relative?

8. What kinds of reactions have your parent(s) had to your pregnancy?

9. Have your parents helped you in any way?

10. Have you ever wished you weren't having the baby at this time? If yes, why? What are the details? Does this bother you? How much? Why?

11. Are there any differences in your relationship to your husband/partner with this pregnancy? If so, how? Do you feel he understands you? Who do you turn to for support?

12. How does he feel about this pregnancy? How does he react to you? How much does he help around the house? (With care of the children?)

13. How has your partner’s/husband's family reacted to you? To this pregnancy?

14. What are your husband's/partner’s primary concerns, if any, about this pregnancy? How are they like or different from your own?

15. To what extent do you expect your relationship (to husband/partner) to change after the birth of this baby?

16. Is there anything so far that you would like to mention or ask?

17. Has anything occurred since your hospitalization that you would like to discuss?

18. Do you feel the doctors and nurses caring for you understand you now--your physical needs and feelings?

19. Who do you really want to be with you during labor? Your husband/partner? Your mother? Someone else? What about this person makes them desirable at this time?

20. How are your partner's/husband's feelings regarding this pregnancy like and different from your own? How would you compare the adjustment to this pregnancy for you and for your partner/husband?

21. Will your husband/partner be with you during labor? During delivery? Do you anticipate he will help you? How much? How does he feel about it?

22. How freely can you speak with your husband partner?

23. Is there anything you would like to ask me about childbirth? Anything else you would like to mention or ask?

24. Have you made any preparations for the baby? What have you done? (If not, why not?)

25. Since your pregnancy, is intercourse more or less frequent or the same? How does your husband respond to the differences? Have you found alternative ways for satisfying each other?

26. What are your concerns about pregnancy and childbirth? What will you do if this happens? How would you handle this? How would you feel?

27. Is there anything you would like to discuss further? If any questions arise you may reach me by phone if you wish to.

B. Specific Concerns about high-risk pregnancy and hospitalization.

1. Can you tell me what you know about why you were hospitalized at this time?

2. Are there any questions that I could answer for you about your health status or your hospitalization?

3. What has this experience of hospitalization been like for you?, For your family?

4. Who are the persons that are closest to you? How much can you rely or depend on them?

5. How much do any family members or friends support you?

6. How much do your closest family members or friends understand your current medical health status or the reasons for your hospitalization?

7. What are your uppermost concerns about this pregnancy? About the baby you are carrying? and about motherhood and your motherhood role?

8. While you have been in the hospital what do you think about most often? What are your most recurrent thoughts?

9. Would you be willing to keep a journal of your thoughts in the hospital? That is, a Diary and Dream record? I am very interested in your thoughts and concerns while I am talking to you, as well as the remainder of the time I am not here. If you would be willing to keep a Diary and Dream record, would you be willing to share it with me? I will return the record to you.

10. Is there anything else you would like to talk about?
    Are there any questions I can answer for you?
    If any other thoughts arise that you would like to discuss with me, please contact me at: ----
    ----.

11. Thank you very much for the time you have spent with me. It is very much appreciated. This project is conducted in the hope that we can develop interventions that will be helpful to other mothers with experiences similar to yours. (Lederman & Wise, 2009)