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**The Lived Experiences of Prenatal Stress and Mind-Body Exercises:
Reflections of Post-Partum Women**

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and Mind-Body Exercises:
Reflections of Post-Partum Women**

by

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Dissertation

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Dedication

This dissertation is dedicated to my entire family with heartfelt thanks. To my husband Donald, who always encouraged me to “do what I needed to do.” To my oldest son Christopher and his wife Laura, who always welcomed me with open arms to stay at their home when I traveled the 200 miles to UTMB; they also gave me two granddaughters, Mallory and Lilly, while I was in the Nursing Doctoral Program. To my son Derek, to whom I am extremely grateful for keeping my computer going and teaching me the finer points of how to do it myself. To my daughter Monica, who started Texas A&M University, graduated, and married her Aggie engineer, Kyle, before I finished my PhD. And last, but certainly not least, I dedicate this work to my parents, Robert and Louise Coale, the two people in my life that had little opportunity for education but who understood the tremendous value and growth an education offers. I am indebted to them for their prayers and encouragement.

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The Lived Experiences of Prenatal Stress and Mind-Body Exercises: Reflections of Post-Partum Women

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Prenatal stress experienced by pregnant women has been linked to risky and unfavorable birth outcomes. The majority of quantitative research reports found in the literature consistently make the point that elevated prenatal maternal stress levels are strongly and positively related to pre-term deliveries, low birth weights, and adverse health events that may affect the life of the child forever. While there is substantial quantifiable evidence regarding links between prenatal stress and unfavorable birth outcomes, few qualitative studies have been conducted to explore and describe what pregnant women's views are about prenatal stress, its effects on birth outcomes, and the women's preferences for and experiences with stress-reducing techniques. In the absence of risk-free medicinal interventions that can safely mediate prenatal stress levels, clinicians and researchers must focus on gaining post-partum women's subjective perspectives about what constitutes and defines prenatal stress, what they choose to do about it, and how they determine if what they did effectively lowered their levels of stress.

To address this gap in knowledge, a descriptive phenomenological approach guided by Giorgi (1985) and Husserl (1964) was used to answer the following research questions: 1) What are the lived experiences of prenatal stress among post-partum women who learned and practiced mind-body exercise (MBE) as a stress-reducing technique during their pregnancies?, and 2) How do post-partum women with previous MBE training describe their lived experiences using this stress-reducing technique during and after their pregnancies?

Ten participants' stories gathered during intensive interviews were analyzed using the Giorgi's (1985) four-step procedure. The study group's conscious awareness of prenatal stress as a threat to the health of their unborn babies was the primary source of

psychological and cognitive meanings that legitimized the use of MBE during pregnancy and reduced its use post-partum. *Situated Structure Statements, General Structure Statements, and General Essential Meanings of Prenatal Stress and MBE* are the theoretical findings of this study. Scientific rigor was evaluated using criteria set forth by Burns and Grove (2005). Findings add important and valuable knowledge for clinicians and researchers to use to develop and test alternative and complementary prenatal stress-reducing interventions.

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CHAPTER ONE: INTRODUCTION TO THE STUDY

The purpose of this chapter is to introduce the problem that was studied, discuss its significance to the discipline of nursing, provide an overview of methods employed and the sensitizing framework, and suggest the contributions its findings may make to the development of non-invasive stress-reduction programs for pregnant women. In Chapter 2, a review of pertinent literature is presented to establish the state of knowledge in this field. Chapter 3 discusses, in detail, the methods used to answer the research questions posed in this study, and further addresses the protection of human subjects and the evaluation of scientific rigor. Chapter 4 presents the findings of this study, including a description of the sample. Chapter 5 discusses the findings, places them in perspective with respect to extant knowledge and the findings of similar studies, and offers suggestions about the usefulness the findings have for nursing practice, education, and research.

THE PROBLEM, SPECIFIC AIM, AND RESEARCH QUESTIONS

The Problem

Prenatal stress experienced by pregnant women has been linked to unfavorable outcomes such as pre-term births and infant low birth weights (Ruiz et al., 2002; Wadhwa et al., 2001). In addition, such adverse outcomes of prenatal maternal stress have been found to impact the health of infants long after their eventful births. In many cases, low birth weight and pre-term infants have poorer health, require more provider visits over their lifetimes, present financial concerns for parents, and strain the services of an already overloaded healthcare system. Several researchers have also noted in the findings of their studies that women of color, low-income women, and women with low levels of education are at increased risk for prenatal stress and for giving birth to low birth weight and pre-term infants (Jesse et al., 2003; Lobel et al., 1992; Stancil et al., 2000). While risks are reportedly higher among the aforementioned groups of women, more evidence

is needed to support any potential shifting of resources and interventions away from any pregnant woman. Moreover, more research is needed to determine causes and mediators of prenatal maternal stress and to identify interventions that effectively empower women to manage stress and lower the risks associated with unfavorable birth outcomes.

While significant changes have occurred in the practice of obstetrics and pediatrics over the past several decades, pre-term birth remains the most frequent cause of infant death in the United States (US) (Mathews & MacDorman, 2007). Even early in the 21st century, pre-term births continue to be major contributors to infant morbidity and mortality (MacDorman et al., 2005). Given the ever-increasing numbers of pre-term births and low birth weight infants, more research focusing on pregnant women's subjective perspectives about one contributing factor, prenatal stress, as well as how they manage this stress, is needed.

Findings of such research are expected to contribute to the development of non-invasive stress-reducing programs and justify the dedication of resources to effectively lower prenatal stress and reduce adverse birth outcomes associated with it. It is important that nurses recognize prenatal stress and provide clients with a variety of low-cost, self-administered stress-reducing strategies that they can use to effectively lower real and perceived stress during pregnancy. In order for nurses to understand the factors women subjectively describe as sources and mediators of prenatal stress, more qualitative studies are needed. Findings of such studies reveal the psychological and cognitive interpretations women have about their experiences with prenatal stress, how they recognize it, and what they do about it. Translating these findings into practice will make significant contributions to educating both clients and practitioners about early interventions in prenatal stress, and serve to legitimize the use of stress-reducing strategies that pregnant women believe will effectively protect their babies from harm.

Specific Aim and Research Questions

The specific aim of this study was to elicit and describe reflections of post-partum women with prior training in stress-reducing techniques about their lived experiences

with prenatal stress, and the psychological meanings these women ascribe to how, when and where they acted to mediate the stress they experienced. Guided by this aim, a descriptive phenomenological research approach, developed by Giorgi (1985) and modeled after the works of Husserl (1964), Merleau-Ponty (1962), and Patton (1990), was used to answer the following research questions: 1) What are the lived experiences of prenatal stress among post-partum women who learned and practiced mind-body exercise (MBE) as a stress-reducing technique during their pregnancies?, and 2) How do post-partum women with previous MBE training describe their lived experiences using this stress-reducing technique during and after their pregnancies?

The stories the women told about their lived experiences with pre-natal stress provided the data that were analyzed using methods prescribed by Giorgi (1985), interpreted in context using extant knowledge, and validated by study group members. Findings are expected to contribute to nursing practice, education, and research.

SENSITIZING FRAMEWORK

While qualitative research serves to build theory rather than test it, a sensitizing framework that represents the tacit knowledge of the researcher and extant understandings of the phenomena of interest provided the context within which this study's methods, limitations, and findings are justified. In the case of this descriptive phenomenological study, the theory of stress and coping (Lazarus & Folkman, 1984) and Roy's theory of adaptation (Meleis, 2007) provided the context for understanding stress, its effects upon the human condition of pregnancy, and the approaches the researcher employed to elicit subjective perspectives of prenatal stress and stress-reducing strategies. While neither of the aforementioned theories was developed exclusively to explain stress and coping among pregnant women, they both support the significance of exploring and understanding stress and its mediation during pregnancy, when, according to reports of previous research studies, stress poses substantial risks to the mother and the unborn baby.

BACKGROUND AND SIGNIFICANCE

While many research studies reported in the literature have quantitatively measured both general and perceived prenatal maternal stress and coping, few qualitative studies have elicited and described pregnant women's subjective interpretations of stress-inducing and stress-relieving experiences during pregnancy (Copper et al., 1996; Ruiz et al., 2002; Ruiz et al., 2003; Wadhwa et al., 1993). Furthermore, few studies have examined pregnant women's experiences with psychosocial interventions such as MBE for stress management. Qualitative studies are needed to gain an understanding of how pregnant women view stress, the effects of stress on pregnant women and their babies, and how learned stress-reducing behaviors influence pregnant women's daily lives and well-being.

The majority of quantitative research reports found in the literature consistently suggest that elevated prenatal maternal stress levels are strongly and positively related to pre-term deliveries, low birth weights, and adverse events for infants that may last a lifetime (Dole et al., 2003; Hedegaard et al., 1996; Heron et al., 2004; Lederman, 1996; Lobel et al., 1992; Wadhwa et al., 1998). Since no current, effective interventions are in widespread use to stop pre-term labor completely, clinicians and researchers alike need to stay focused on reducing prenatal stress and on developing a knowledge base of maternal preferences for non-invasive and self-administered interventions (Field et al., 2003; Heron et al., 2004; Jesse et al., 2003; Lobel et al., 2000; Moutquin, 2003; Paarlberg et al., 1999; Sandman et al., 1999; Zimmer-Gembeck & Helfand, 1996). Among the emerging body of literature about interventions for relief of prenatal stress, there are few reports about the use and effectiveness of non-invasive, self-administered mind-body interventions or pregnant women's responses to those types of interventions.

In a previous quantitative study conducted by this investigator and her research mentor, Dr. Regina Lederman, the psychosocial interventions of MBE were delivered to pregnant women participating in prenatal support groups in rural eastern Texas (R. Lederman, personal communication, January 20, 2009). The findings of this study suggest that MBE, as one psychosocial intervention offered to the study group, may

contribute to reduced stress levels in pregnant women when used alone and in combination with other non-invasive strategies.

MBE or mind-body therapies (MBTs) are defined by the National Institutes of Health (NIH) as “interventions that use a variety of techniques designed to facilitate the mind’s capacity to affect bodily function and symptoms” (Astin et al., 2003, p. 131). While the previous study measured pre- and post-intervention levels of stress in the study sample, subjective perspectives the women had about prenatal stress and MBE were not captured. These phenomena are best suited for exploration by qualitative approaches to knowledge development. Thus, this dissertation was designed to explore and describe the lived experiences of prenatal stress and MBE among a diverse sample of post-partum women who participated in stress-reduction support groups during their pregnancies.

Of significance to this investigator’s choice of research questions and study design is Callista Roy’s support of the need to conduct qualitative inquiries when the researcher’s goals are to uncover dynamics of stress and adaptation that may have sources in non-quantifiable dimensions of human beings (Meleis, 2007). In the case of this study, the non-quantifiable dimension of the human is the celebrated mind-body connection that forms the basis of the ever-evolving biopsychosocial model of health and illness (Ray, 2004).

The perceived mind-body connection that forms the basis of therapeutic premises for MBE (Andreasen, 1997) has transformed the way consumers and health care professionals view health and illness (Astin et al., 1999). According to Straus (2001), a simplified explanation of mind-body connection suggests that thought processes are the primary functions of the brain, and as we change our brains, we in turn change our bodies. Given evidence publicized by the NIH stating that more than half of all deaths in America are caused by behavioral and social factors (Carpenter, 2001), more studies of mind-body interventions across the lifespan are needed to discover the impact that behavioral changes can have on health and longevity. It is learning and performing activities that change the brain and the behaviors it stimulates that impact the health and quality of life of individuals (Straus, 2001).

Studying subjective perspectives of what mind-body experiences mean to individuals who learn and practice mind-body therapies is necessary to build the body of knowledge for nursing practice, health promotion, and health policy development. Incorporating the mind-body perspective into the growing body of knowledge about prenatal stress and its effects on pregnant women, unborn babies, and rates of pre-term births contributes to nursing's ability to educate the public and provide non-invasive and self-administered stress-relieving interventions for women during and after pregnancy. This study fills the gaps in nursing's body of knowledge specific to what post-partum women believe are factors associated with prenatal stress, how post-partum women view relationships between stress they experience while pregnant and pregnancy outcomes, and how post-partum women appraise the effectiveness of mind-body prenatal stress interventions.

The information gained through the voices of this study's sample shed light on ways that nurses and healthcare providers can recognize and provide early intervention to reduce prenatal stress. By understanding how study participants interpret their prenatal stress and how they view the role of their MBE experiences during stressful times, it is hoped that a new dimension of coping can be proposed to expand the extant theories of stress and coping. Future intervention programs that are low-cost in nature and relatively easy to offer and administer will be based on this added dimension that brings mind-body perspectives to the stress-mediating and coping arena.

OVERVIEW OF THE PHILOSOPHICAL FOUNDATIONS AND METHODS OF THIS STUDY

Introduction: Phenomenology as Philosophy and Method

Phenomenology is recognized as both a philosophy and a research approach (Lopez & Willis, 2004). Phenomenology, as philosophy, refers to an individual's awareness of the meanings that events and experiences have in his or her life. Phenomenology, as method, is recognized as the study of first order perceptions and reflections that are truths and understandings based on subjective experiences (Merleau-Ponty, 1962). Several philosophical schools of thought within phenomenology have

emerged since the 19th century, when Husserl became known as the father of phenomenology (Spiegelberg, 1975).

Each school of thought gives direction to the phenomenological research approach an investigator chooses when conducting studies of human experiences (Caelli, 2000). For example, Husserl's (1970) phenomenology is concerned with human consciousness and psychology. He suggests that scientists can employ a phenomenological research approach to gain an understanding of human motivations through the subjective reflections study participants share about their real life experiences. This understanding of Husserl's philosophy gave rise to the descriptive phenomenological approach to inquiry (Cohen, 1987; Giorgi, 1985), which was the research approach used in this study to elicit and describe the participants' critical reflections upon their experiences with prenatal stress and MBE in the support group setting and in their individual lives.

The descriptive phenomenological approach used in this study is philosophically bound to Husserl's (1964) transcendental perspective that suggests that phenomena and the people who experience them are inseparable. Credited with prescribing detailed methodological procedures for descriptive phenomenology, Giorgi (1985) guided the conduct of this study and enabled this researcher to remain true to the existential philosophy originally put forth by Husserl and carried on by his followers. The significance of using a descriptive phenomenological approach to capture and interpret the lived experiences of post-partum women who, while pregnant, participated in MBE in support group settings is to discover common meanings and essences of prenatal stress, its threats, and its management.

Husserl (1964) cautions that in order for researchers to learn and understand the meanings that specific phenomena have for those being studied, we must blind ourselves to all of our preconceived notions about those phenomena in favor of yielding to "a conscious understanding of an experience with phenomena as they are now in the lifeworld" (LeVasseur, 2003; Lopez & Wills, 2004, p. 727). Blinding or bracketing, according to Husserl, allows the true meaning of the phenomena to emerge as revealed in

the reflections upon experiences found in the narratives of the study participants (Koch, 1995). More about bracketing and its significance in this study are discussed in detail in Chapter 3.

While a thorough review of the literature was necessary to establish the state of knowledge prior to the conduct of this dissertation, this investigator used the literature and professional clinical experiences to recognize the necessity and appropriateness of bracketing and blinding during data collection and analysis.

Sample

This descriptive phenomenological study was conducted using a purposeful sample (Glaser & Strauss, 1967; Lincoln & Guba, 1985; Patton, 1990) of postpartum women who participated in MBE while attending prenatal support group meetings during their pregnancies. The sample was recruited using IRB-approved flyers, letters, and announcements. All women who attended prenatal support groups and participated in MBE during pregnancy received generic letters about the study in the mail. Flyers were posted in areas where support group meetings were held, near clinics, and in providers' offices. All forms of recruitment materials informed individuals about how to contact the researcher if they were interested in learning more about the study.

Eligibility criteria for participation in this study were: 1) being female and 18 years of age and older; 2) having learned and practiced prenatal stress-mediating techniques during a past pregnancy; 3) being post-partum for a minimum of two months and a maximum of two years prior to consenting to participate in this study; 4) being able to understand and speak English; and 5) not being pregnant at the time of participation in this study.

It was expected that a sample size of 15 women was needed to reach data redundancy and saturation, both of which signal the cessation of data collection (Lincoln & Guba, 1985; Sandelowski, 1986). A detailed discussion of sample recruitment and enrollment is found in Chapter 3. A detailed description and discussion of the sample of participants is found in Table 4.1 and in the text of Chapter 4.

Protection of Human Subjects

The Institutional Review Board at UTMB approved this study before it was conducted. Written informed consent was required of all participants. After explaining the study and answering all of the potential participant's questions, those who volunteered to participate in the study signed the informed consent form and were given a copy to keep. The researcher's copy was filed in a locked file drawer in her office. A coded identification number was assigned to each participant and used to mark the demographic data records, taped interviews, and transcriptions. Only the researcher had the legend that linked participants' names to their code numbers, and this was locked in a file drawer separated from other study materials. Maintaining the protected links between names and numbers was exclusively for the purpose of assisting the researcher with contacting participants if she needed to ask for clarification about anything that was said during the interviews. Participants' names and numbers were never placed together on any other study records. To protect confidentiality, interviews were conducted in private locations chosen by the interviewees.

It was determined by the researcher and affirmed by the IRB that this study posed no risk of physical harm to participants. However, there was minimal risk of a loss of confidentiality due to the face-to-face nature of the interview setting. If any participant felt emotional duress during discussions of their experiences with prenatal stress, the researcher was prepared to stop the interview, reassure the participant, and refer the individual for assistance. There were no such episodes during this study. No participants asked to be withdrawn from the study. More details about the protection of human subjects are found in Chapter 3.

Data Collection

Data collection was accomplished by interviews, and the narrative stories of the participants comprised the primary data in this study. In descriptive phenomenology, narratives generated during conversation with research participants are the data that yield thick and rich descriptions of both the phenomena of interest and the participants' interactions with those phenomena (Koch, 1995; Lopez & Willis, 2004). Once the

consent form was signed, interviews began with a request for information (bio-demographic) about age, number of pregnancies, live births, family composition, employment status, and frequency of participation in MBE support groups during any pregnancies. Interviews lasted no more than 90 minutes each. All participants were able to complete the interview guide in one session, during which time clarifications were also accomplished. Samples of open-ended questions and probes used during the interviews are found in Chapter 3. The full interview guide used in this study is found in Appendix C.

All interviews were audiotaped and later transcribed verbatim so that data analysis could be performed. Transcriptions were checked for accuracy by the investigator as she replayed the tape recordings while reading the transcribed data. To capture the researcher's insights and experiences during the conduct of this study, the researcher's personal journal and field notes that capture important data about the interviews and methods were recorded and analyzed.

Data Analysis Procedures

Data in this study were analyzed using the methods developed by Giorgi (1985, 2005). Giorgi's perspectives about phenomenology are consistent with contemporary human science perspectives about the significant roles psychology and consciousness have in formulating meanings humans ascribe to their life experiences. Given that prenatal stress and MBE are phenomena of interest to this investigator, a data analysis approach that is consistent with the philosophical foundations of descriptive phenomenology and the research methods prescribed by Giorgi are critically important to the validity and reliability of this study.

Giorgi's (1985) approach to data analysis in phenomenological studies is comprised of four basic steps. The first step involves the researcher repeatedly reading each transcript to get a general sense of each participant's story. In the second step, the researcher returns to each transcript and identifies the psychological meanings revealed in statements that are seen as most important to the phenomena being studied. This step involves marking the places in the transcripts where meanings occur and where

transitions in meanings are recognized. These “meaning units,” as Giorgi calls them, are coded in each transcript and recorded in the methodological notes. When similar meaning units are found in other transcripts across the study group, the same codes are assigned there as well. In the third step of Giorgi’s method, all similar meaning units identified throughout the entire data set are gathered together and labeled with terms that represented the various clusters of psychological insights being expressed. Gathering places were called “codebooks,” clusters of like-meaning units were called “concept baskets,” and labels made for each concept basket represented the expressions of the participants’ own words. The codebooks for this study are found in Appendix G. Codebooks were also instrumental to the evaluation of the scientific rigor of this study, as they provided an auditable trail of the researcher’s movements through the data analysis process. With each inductive abstraction that facilitated the collapsing of data within and across concept baskets, broader and more general classifications and labels for the new emergent meanings were applied to reflect the shared insights of the study group.

Finally, in the fourth step, the researcher synthesized the conceptualizations of the study group into logical statements that communicated insights and psychological meanings that the study group revealed while reflecting upon their experiences related to prenatal stress and mind-body exercise. These statements took the form of situated structure statements, general structure statements, and general essential meanings for both prenatal stress and MBE. A complete and detailed explanation of data analysis procedures performed in this study is found in Chapter 3.

STRATEGIES FOR EVALUATING SCIENTIFIC RIGOR

Qualitative research is not dependent upon mathematical or statistical verification for its results; however, it is subject to certain guidelines for establishing scientific rigor and truth-value. Sandelowski (1986) was instrumental in applying the works of Lincoln and Guba (1985) to the development of criteria for rigor in nursing research. Those criteria, although not the ones against which this study was evaluated, provided this researcher with the tools necessary to perform and document the following processes that comprise an auditable trail: 1) detailed, written procedures used during the study (Chapter

3); 2) raw data in the forms of transcripts and tapes (secured in the researcher's office); 3) codebooks that display the researcher's movements through the data and thematic induction (samples in Appendix G); 4) the presentation of themes and essences (Chapter 4); 5) the researcher's reflexive journal and field notes (available upon request); and 6) a second researcher's analysis of data (discussed in Chapter 3).

Since Sandelowski's (1986) and Lincoln and Guba's (1985) evaluation criteria (not discussed in this dissertation) were published and used, other nurse researchers have formulated criteria that accomplish similar ends but use different terminology and approaches. Burns and Grove (2005) put forth five standards that were found by this researcher to be more compatible with the philosophy underlying descriptive phenomenology and were therefore used to evaluate the rigor of this study. Those standards include: (1) descriptive vividness, (2) methodological congruence, (3) analytical preciseness, (4) theoretical connectedness, and (5) heuristic relevance. Each will be described in detail in Chapter 3 as they pertain to actions and decisions this researcher performed during the conduct of this study and conclusions that were reached about the study's rigor and integrity.

LIMITATIONS OF THIS STUDY

The scope of this study was limited to the exploration of subjective meanings and interpretations of MBE, which is only one of several recognized non-invasive psychoeducational strategies taught to pregnant women to increase their mindfulness about prenatal stress and empower them with tools to mediate that stress. The limits of this study are specifically related to its scope. While there are several other strategies that can be taught and practiced to achieve similar goals of prenatal stress reduction and control, this study focused on only MBE. The findings of this study are expected to fill a gap in the research and clinical literature about MBE and its influence upon stress recognition and control among pregnant women. Although many qualitative and quantitative researchers alike cite the small sample sizes of phenomenological studies as limitations, contemporary thought is that small sample sizes mean that the findings of

such studies can be applied to the study group and others with commensurate characteristics and experiences.

SUMMARY

Despite the large body of evidence that supports causal relationships between prenatal stress and unfavorable birth outcomes, few qualitative studies exist that explore subjective perspectives of post-partum women regarding prenatal stress. In addition, there are few subjective accounts of post-partum women's reflections upon their experiences with self-administered stress reducing techniques during and after their pregnancies. Guided by the lack of subjective perspectives of post-partum women regarding prenatal stress, the specific aim of this descriptive phenomenology was to elicit and describe what the reflections post-partum women with prior training in stress-reducing techniques reveal about their lived experiences with prenatal stress and the psychological meanings they ascribe to how, when, and where they acted to mediate the stress they experienced.

Supported by evidence from previous studies and an eclectic stress and coping sensitizing framework, the findings of this study are expected to contribute to nursing's body of knowledge about how pregnant women recognize prenatal stress, describe its causes, and determine what they want to do about it. Findings will also give direction to future recommendations for research, practice, and education.

CHAPTER TWO: REVIEW OF THE LITERATURE

INTRODUCTION

The purposes of this chapter are to present reviews and critiques of published research studies that represent the current state of knowledge about prenatal maternal stress, mind-body stress management interventions, and support group settings as venues for sharing common interests and learning new problem solving skills. The literature discussed here addresses the significance of exploring prenatal stress and mind-body exercise from the perspectives of post-partum women who learned and practiced stress-reduction techniques in the context of support group settings during their pregnancies.

Although there are many studies that report the deleterious effects of prenatal stress for mothers and babies alike, there were no specific studies found that addressed the meanings that mind body exercise have for women who need and want to reduce prenatal stress. Knowledge gained from the review of literature presented in this chapter helped to shape the conduct of this study, beginning with the aim and research questions and ending with the interpretation and discussion of the findings. Also included in this chapter is an explanation of the sensitizing framework and orientation that guided this study.

SENSITIZING FRAMEWORK AND ORIENTATION OF THE STUDY

Lazarus and Folkman's (1984) transactional model of stress is one component of the eclectic collection of theoretical frameworks that comprise the sensitizing orientation for this study. The sensitizing orientation in a qualitative study helps define terms, limit the scope of the study, guide the researcher in the conduct of the study, and assist the researcher with the interpretation and discussion of the findings.

Lazarus and Folkman (1984) define stress from a psychological perspective that suggests stress is "a particular relationship between the environment that is appraised by the person as taxing or exceeding his or her resources and endangering well-being" (p.

19). By this definition, stress is not an event but rather a transaction between a person and the environment. As such, the significance this definition holds for nursing is its consistency with nursing's metaparadigm of person, health, nurse, and environment (Meleis, 2007). The relational process of stress is both dynamic and bidirectional, belonging to neither the person nor the environment. The decision to use Lazarus and Folkman as a contributing guiding framework for this study was based on the study's ability to explain relational dynamics between phenomena the study group members perceived there to be between their environments (family, support group peers, and work settings), perceived stress (sources and what to do about them), the effects they believed stress could have on themselves and their unborn babies, and what they wanted to do about relieving stress.

Also important to the aim and scope of this study was Lazarus and Folkman's (1984) interpretation of the process of appraisal. They describe appraisal as the individual's evaluation of the significance of an event combined with his or her perceived capacity to cope with the specific stress using personal resources. Appraisal is an ongoing activity that includes consideration of the individual's perceived relationship with the environment and the coping resources available. This also influenced the interpretation of this study's findings regarding the study sample's reactions to stress, its sources, and choices they made for mediating or reducing stress.

The women in this study shared their experiences of how they recognized and responded to prenatal stress, what it meant to be in a support group where new and different coping strategies were taught and practiced (MBE), and why, once they were not longer pregnant, their use of MBE to help them cope was greatly reduced. While the prenatal support group with MBE classes for stress management offered participants coping strategies during pregnancy, reasons for why they stopped using MBE following delivery merit further exploration.

A second theoretical structure that influenced the conduct and interpretation of this study and its findings is Roy's Adaptation Model (Meleis, 2007). Roy's Adaptation Model describes humans as constantly changing bio-psychosocial beings. They change

because of continuing efforts to adapt to the ever-differing environments they find themselves interacting with at every occasion. According to Roy's model, nursing interventions must be aimed at assisting individuals to adapt in ways that positively promote their well-being. The value that Roy's model brings to this study is to validate its aims and research questions to the extent that the study's findings can add potential interventions nurses can translate to their patient populations in order to reduce stress, enhance coping, and sustain adaptation. The voices of the participants in this study tell of the stress in their environments and the strategies used to return their world to a place of homeostasis. They speak not only to the sources of stress during pregnancy, but also to the symptoms of prenatal stress and the actions they took to decrease that stress.

While this section about the sensitizing orientation for this study stands to inform readers about knowledge learned and the contexts used for guiding the methods and interpreting findings, more specifics are found in Chapters 3, 4, and 5. The remainder of this chapter discusses literature related to the concepts and constructs associated with the study's aims and research questions.

Prenatal Stress

Prenatal maternal stress is a set of terms frequently found in nursing, psychology and medicine literature. However, there is little agreement about how and when the terms are defined and applied to patient populations. The concepts of stress and anxiety are closely related and similarly used in the literature in reports of studies that have included the concepts as one composite variable (Copper et al., 1996; Lobel et al., 1992). So whether the preferred set of terms is prenatal maternal stress or prenatal maternal anxiety, there still exists a lack of clarity in what they mean and how they are used. Related terms such as fear and ineffective coping have also been found embedded in some literature addressing prenatal maternal stress. For purposes of this dissertation, the term prenatal stress is used throughout to describe a phenomenon experienced by pregnant women as they discussed their post-partum stories of what and how stress affected them and their unborn babies while they were pregnant. Because of inconsistencies throughout the

literature in the use of terms described above, those studies reporting data about all related terms will be cited if they were deemed appropriate to establishing the state of knowledge pertinent to this investigation.

Maternal stress has been linked to both psychological and physiological factors that influence the risk of preterm birth. Wadhwa et al. (1998) showed that maternal stress plays a role in activating the placental-pituitary-adrenal axis that stimulates corticotrophin-releasing hormones, thereby placing the mother at risk for premature delivery of her infant. Barker (2005), Dole et al. (2003), Hedegaard et al. (1996), and Lederman (1996) also found that prenatal maternal stress and stress factors were significant correlates of preterm birth and adverse birth outcomes. While these and many more research studies reported in the literature have quantitatively measured both general and perceived prenatal maternal stress and coping (Copper et al., 1996; Ruiz et al., 2002; Ruiz et al., 2003), few qualitative studies have elicited and described pregnant women's subjective interpretations of stress-inducing and stress-relieving experiences during pregnancy. Even fewer studies have examined pregnant women's experiences with psychosocial interventions such as mind-body exercises for prenatal stress management.

The majority of quantitative research reports found in the literature consistently suggest that elevated prenatal maternal stress levels are strongly and positively related to pre-term deliveries, low birth weights, and adverse events for infants that may last a lifetime (Barker et al., 2002; Dole et al., 2003; Hedegaard et al., 1996; Heron et al., 2004; Lederman, 1996; Lobel et al., 1992; Wadhwa et al., 1998). Ruiz and Avant (2005) found that pregnancy-related anxiety and maternal stress have adverse effects on infant health, particularly on the development and function of the immune and neurocognitive systems. Other studies (Field et al., 2003; Huizink et al., 2003; O'Connor et al., 2003) also report links between high levels of prenatal maternal stress and the future development of the infant. These results suggest that prenatal maternal stress may be one of the determinants of delay in motor and mental development in infants. Monk et al. (2003) examined the effects of pregnant women's acute stress reactivity and chronic anxiety on fetal heart rates. Findings for this study support earlier reports of significant associations between women's chronic anxiety and adverse responses in the fetus—namely an increase in fetal

heart rates. Based on the relationships reported to date between maternal stress and potential adverse effects of stress on the unborn baby, more research is needed to develop and test choices for non-invasive stress-reducing interventions for use by pregnant women. Goals for the development and testing include benefits for the well-being of both mother and baby. The study conducted and reported by this researcher begins to build upon qualitative findings that present the subjective experiences of pregnant women.

Studies by Dole et al. (2003) and Hedegaard et al. (1996) revealed more than just the significant relationship between prenatal maternal stress and untoward outcomes of preterm birth. Dole et al. (2003) also found that women with a perception of racial discrimination were at an increased risk of preterm birth. While the study reported here recruited and enrolled a purposefully varied sample that included women of color, racial and ethnic influences on subjective experiences with prenatal stress were beyond the aim of this study. However, these factors are considered important and will be included in future studies.

Heron et al. (2004) conducted a study to examine the rates and stability of depression and anxiety across a woman's transition from pregnancy to the post-partum state. Results revealed that early second and third trimester prenatal anxiety predicted both postnatal anxiety and depression at 18 and 32 weeks gestation. The results of the above studies also indicate that presence of prenatal stress early in the pregnancy is a significant predictor of stress later in pregnancy. These findings continue to help shed light on the importance of early diagnosis and intervention of prenatal maternal stress in helping to improve outcomes for the unborn baby as well as the mother.

Since no current, effective interventions are available to stop preterm labor completely, clinicians and researchers alike need to stay focused on reducing prenatal stress and on developing a knowledge base of maternal preferences for non-invasive, medication-free interventions that are also culturally appropriate. Researchers such as Field et al. (2003), Heron et al. (2004), Jesse et al. (2003), and Moutquin (2003) have all stated that there exists a need to develop interventions that would help women cope with prenatal stress and reduce the risk of preterm delivery (Zimmer-Gembeck & Helfand, 1996). Few reports of outcomes related to maternal stress-reduction and coping

interventions are found in the literature. Yet, evidence that pregnant women who experience high levels of stress and anxiety are more likely to have adverse pregnancy outcomes continues to mount (Lobel et al., 2000; Paarlberg et al., 1999; Sandman et al., 1999).

While many researchers emphasize the need for interventions to help women reduce their stress and anxiety levels during pregnancy, research aimed at evaluating interventions that promote psychosocial well-being in pregnant women are underreported (Zimmer-Gembeck & Helfand, 1996). Ruiz and Avant (2005) found that pregnancy-related anxiety was associated with the highest risk for preterm birth out of all psychosocial measures for African-American women. They also discussed evidence showing that prenatal maternal stress may have adverse effects on infant health, particularly the development and function of the immune system and neurocognitive development. Field et al. (2003), Huizink et al. (2003), and O'Connor et al. (2003) also reported links between reports of high prenatal maternal stress and the future development of the infant. Their results suggest that prenatal maternal stress may be one of the determinants of delay in motor and mental development in infants. Based on the cumulative evidence of links between prenatal stress and adverse infant outcomes, more research is needed to test safe interventions that foster client compliance because they are portable and easy to use. This observation, gleaned from a review of the literature, helped to develop the aim and research questions posed in this study.

Mind-Body Interventions as Potential, Non-invasive Stress-Modifiers

Since no current, effective interventions are available to stop pre-term labor completely, clinicians and researchers alike remain focused on discovering and employing complementary and alternative interventions aimed at reducing prenatal stress and on advancing the development of a knowledge base about maternal preferences for non-invasive, stress-reducing interventions (Field et al., 2003; Heron et al., 2004; Jesse et al., 2003; Lobel et al., 2000; Moutquin, 2003; Paarlberg et al., 1996; Sandman et al., 1999; Zimmer-Gembeck & Helfand, 1996). However, to date, few reports about the use

and effectiveness of non-invasive mind-body interventions aimed at reducing prenatal stress exist.

Many researchers emphasize the need for interventions to help women reduce their stress and anxiety levels during pregnancy; however, research aimed at evaluating interventions that promote psychosocial well-being in pregnant women are underreported (Zimmer-Gembeck & Helfand, 1996). In a previous quantitative study conducted by one of this investigator's research mentors, Dr. Regina Lederman, the psychosocial interventions of mind-body exercises were delivered to pregnant women participating in prenatal support groups throughout the regions of east and southeast Texas. Mind-body exercises (MBE) or mind-body therapies (MBT) are defined by the National Institutes of Health (NIH) as "interventions that use a variety of techniques designed to facilitate the mind's capacity to affect bodily function and symptoms" (Astin et al., 2003, p. 131). While the study by Astin and colleagues measured pre- and post-intervention levels of stress in the study sample, subjective perspectives the women had about prenatal stress and mind-body exercises were not captured. Both of these phenomena are best suited for exploration by qualitative approaches to knowledge development. Thus, this dissertation was designed to explore and describe the lived experiences of prenatal stress and mind-body exercises among a diverse sample of post-partum women with previous exposures to learning and practicing stress-reducing techniques during their pregnancies.

Of significance to this dissertation researcher's choice of research questions and study design was the nursing discipline's support for conducting qualitative studies to discover and describe non-quantifiable dimensions of humans and the human condition as it iteratively evolves in the context of a mind-body connection (Meleis, 2007; Ray 2004). Furthermore, in recent decades, the perceived mind-body connection has been touted as the basis for developing and understanding health, illness, and therapeutics among both consumers and health care professionals (Astin et al., 1999). More qualitative explorations of how consumers and providers view, use, and interpret mind-body connections are needed to advance the body of knowledge that guides holistic nursing practice and research.

According to Straus (2001), a simplified explanation of mind-body connection suggests that thought processes are the primary functions of the brain and as we change

our brains we change our bodies. Given evidence published by the National Institutes of Health (NIH) stating that more than half of all deaths in America are caused by behavioral and social factors (Carpenter, 2001), more studies of mind-body interventions across the lifespan are needed to discover the impact that behavioral changes can have on health and longevity. It is learning and performing activities that change the brain and the behaviors it stimulates that impact the health and quality of life of individuals (Straus, 2001). And, as this study reveals, these hypotheses also apply to pregnant women.

The dissertation research reported here begins to fill gaps in nursing's body of knowledge specific to the lived experiences of prenatal stress and mind-body exercises among post-partum women who learned and practiced stress-reducing techniques during their pregnancies. The information gained through the voices of this study's sample gives direction to clinicians and researchers about developing and testing prenatal stress-reducing interventions that may include those based upon beliefs about mind-body connections.

Mind-Body Exercises as Mindfulness-Based Stress Reduction Strategies

Mindfulness based stress reduction (MSBR) is an intervention that is based on a program developed by Jon Kabat-Zinn, PhD, and his colleagues in 1979. It was initially designed to teach patients with chronic medical conditions how to live fuller, healthier, and more adaptive lives. It is based on the premise that every individual has the inner resources to perform mindfulness meditation practice, and that these relaxation techniques can assist in decreasing stress and promoting health (Kabat-Zinn, 1990).

MSBR involves intensive training in mindfulness meditation and how to employ it in the daily living and coping with stress, pain and illness. Mindfulness meditation techniques concentrate on four fundamental areas of experience: (1) the body and sensations experienced, (2) feelings and identification of feelings experienced in the here and now, (3) thoughts and present state of consciousness, and (4) the awareness of truths or the identification of beliefs held sacred. It is moment-to-moment awareness that is intentionally non-reactive and non-judgmental (Kabat-Zinn, 1994).

Kabat-Zinn's (1990, 2005) MBSR Program uses several formal meditation practices such as sitting meditation, the body scan, and *Hatha* yoga exercises. All of these practices promote the intentional development of our ability to pay attention to the present moment experience, which is often taken for granted or ignored altogether. Kabat-Zinn (2005) suggests that heightened awareness of everything in our daily lives can be viewed as an opportunity to change the way we relate to things. Many studies have shown that deliberate cultivation of mindful awareness practices promotes healing (Bennett-Goldman, 2001; Kabat-Zinn, 1990; Santorelli, 1999). Roth and Robbins (2004) conducted a study to determine whether completing a mindfulness-based stress reduction program would affect the health, health-related quality of life, sleep quality, and family harmony of Spanish- and English-speaking medical patients at an inner-city health clinic. Their findings revealed that the intervention group showed statistically significant improvement on five of the eight SF-36 Health Survey measures, and no improvement on the sleep quality or family harmony items. Findings also suggest that MBSR be made available in different languages, to minority populations in culturally sensitive ways, and studied both qualitatively and quantitatively by researchers interested in the effects of MBSR on health and quality of life.

In another study by Shapiro et al. (2008), the issue of determining if mindfulness could be cultivated and if that cultivation would lead to well-being was investigated. Results demonstrated that significant increases in scores on the Mindful Attention and Awareness Scale (MAAS) can be cultivated, and that positive scores suggest that positive outcomes are achieved. However, when mediation analyses were applied to the study's data, they revealed that MAAS only partially predicted positive outcome, and that measures of adherence to mindfulness practice also independently predicted some positive outcomes. In the case of this dissertation study, the findings demonstrate that this study group did learn and practice MBE during pregnancy, but that after the birth of their babies MBE was only used irregularly and as a non-conforming strategy.

In a prospective, nonrandomized, controlled trial study employing a non-pregnant sample, Rosenzweig et al. (2003) examined the effectiveness of a MBSR intervention on

stress levels of second year medical students. Results showed that MBSR may be an effective stress management intervention for medical students. Studies by Astin et al. (1997), Shapiro et al. (1998), and Williams et al. (2001b) used randomly assigned control groups in non-clinical populations and found that MBSR programs significantly reduced levels of stress and psychological distress and enhanced the subjects' sense of control, empathy, and spirituality. These findings suggest mindfulness interventions may be useful health-promotion and illness-prevention strategies for many individuals across varied life situations.

Mason and Hargreaves (2001) used a qualitative study to explore participants' accounts of mindfulness-based cognitive therapy (MBCT) for depression. It was revealed that both denial and stress had created a great deal of distress in their lives prior to learning mindfulness meditation. By practicing meditation, they learned to focus their attention and to observe their thoughts in an objective and detached manner. By doing this, subjects achieved a greater sense of relaxation. In a small mixed methods study with third-year nursing students, Young et al. (2001) found that analysis of the qualitative data generated during focus groups revealed that the students who used MSBR techniques were more aware and less emotionally reactive and judgmental when compared to others. MSBR students also reported more balance in their lives between doing and being and that they experienced more interpersonal openness and connection. The quantitative data indicated the subjects experienced improved physical, emotional, social, and mental health. This study was unique in that the nursing students were involved in the mindfulness intervention and the research process, which allowed the students to move the concept of health promotion and self-care from theory into practice.

Urizar and colleagues (2004) examined whether cortisol and mood could be altered by a simple reminder to avoid stress given during a prenatal visit. The sample consisted of predominantly low-income Latino women. They were instructed to eliminate things that were stressful and participate in things that would increase relaxation. The participants reported lower levels of depression and better mood when given reminders to relax. Other findings showed that subjects' cortisol levels were lower during the reminder

stress-reduction phase. Findings from a pilot study by Vieten and Astin (2008) demonstrated that mothers who participated in an eight-week mindfulness-based intervention directed toward reducing stress and improving mood in pregnancy and early postpartum states showed significantly reduced anxiety and negative affect during the third trimester of pregnancy as compared to those who did not receive the intervention. As in this dissertation study, participants reported the effectiveness of reducing stress when practicing MBE during pregnancy and while in the prenatal support group setting.

A study conducted by Teixeira et al. (2005) evaluated pregnant women between 28 and 32 weeks gestation, before and after a 45-minute period of active-and passive-relaxation. Active-relaxation involved a guided hypnotherapy imagery script while passive-relaxation meant sitting quietly, feet up, looking at a fashion magazine. Self-reported state and trait anxiety, maternal heart rate, and serum cortisol levels were significantly lowered in both groups from pre- to post-treatments. At post-treatment, state anxiety and maternal heart rate were significantly lower in the active group compared to the passive group. The passive-relaxation group demonstrated reductions in norepinephrine and cortisol compared to the active group, suggesting that participants in the active-relaxation group may have been responding to the novelty of the hypnotherapy imagery script.

The women in the study group described in this dissertation voiced their feelings about being treated as “special” during their pregnancies, and how they gave themselves permission to rest and take time to lower their levels of stress. However, most of the study group did not continue to use MBE after delivery and none of the literature under review in this dissertation offers explanatory hypotheses for this phenomenon. It will however be explored by this researcher in her next study.

The effects of applied relaxation training on reducing anxiety and perceived stress in 110 primipara women were reported by Bastani et al. (2005). Post-intervention anxiety and perceived stress scores decreased in the intervention group compared to the control group. Perceived stress significantly increased from pre- to post-intervention levels in the control group. In a separate article, Bastani et al. (2006) reported the analysis of the

sample's birth outcomes. Results found the mean birth weight for infants born to relaxation group mothers averaged 285 grams higher ($p < 0.01$) than in the control group. The control group experienced a significantly higher rate of cesarean births (40%) than the relaxation group (15%), and the prematurity rate showed no significant differences. The above two articles are some of the scant literature that was found examining mind-body modalities aimed at stress reduction during pregnancy as an intervention to improve perinatal outcomes. It would be interesting to follow up with the above study to learn if the women in the sample practiced the applied relaxation techniques in the post-partum state, as we know that the participants in this dissertation only practiced MBE post-partum in a modified version or not at all.

Other studies that evaluated the effect of relaxation therapy during pregnancy discovered that the participants had longer gestation periods and their babies had higher birth weights. Also, fewer women were admitted to the hospital, had fewer days of hospitalization, lower blood pressure, and less proteinuria (Janke, 1999; Little et al., 1984). The benefits of relaxation therapy reported in the above studies and found in this study suggest that they are important, useful, and effective means to reduce prenatal stress.

Of particular importance to the health of pregnant women is the benefit of mind-body relaxation for those who also live with a chronic illness or condition. In a randomized prospective controlled trial, Nickel et al. (2006) evaluated the efficacy of progressive muscle relaxation for pregnant women with asthma. Findings revealed a significant decrease in systolic blood pressure in the group that practiced progressive relaxation as compared to the control group. The participants in the treatment group also reported a decrease in anger, less discomfort, better mental health, and fewer role limitations due to emotional problems. All of the above symptoms can affect the perceived stress and anxiety during pregnancy. However, as with the above study, it would have been noteworthy to include the birth outcomes for the study group in this dissertation research.

Over the past two decades, meditation has increasingly become a part of healthcare practice as a means to treat and even prevent numerous stress-related illnesses. The health benefits and effects of meditation and yoga for pregnant women need to be studied more to determine their safety and efficacy in stress relief and healthy birth outcomes. Williams et al. (2005) conducted a randomized controlled trial with subjects complaining of non-specific chronic low back pain to compare the effects of Iyengar yoga therapy versus an educational intervention. The findings reported that indeed the Iyengar yoga therapy was more beneficial in relieving chronic low back pain than the educational program.

In a study by Narendran et al. (2005b), the efficacy of yoga on pregnancy outcomes in terms of birth weight and gestational age at delivery were evaluated. The treatment group practiced yoga and the control group walked twice daily. The results found that the women in the yoga treatment group had babies with increased birth weights. The women in the yoga group reported a significant decrease in the occurrence of preterm labor and PIH. Findings also revealed the emergency cesarean birth rate for the yoga group was 23% compared to 33% for controls. The findings are both promising and clinically important in evaluating outcomes for both mother and baby. Also factored into the findings are the decreases in health care costs because of fewer complications for mother and baby.

A similar study was done on the efficacy of yoga among pregnant women with abnormal Doppler studies of the umbilical and uterine arteries (Narendran et al., 2005a). The findings suggest that the mean birth weight of babies in the yoga group were significantly higher than in the control group and complications (including PIH, IUGR, prematurity, emergency cesarean birth, and fetal demise) all showed lower trends in the yoga group. There was also the added benefit of decreased perinatal mortality and morbidity rates which could indicate that yoga does no harm. Literature on mind-body interventions for stress and anxiety and any perinatal outcomes is limited. However, by conducting qualitative studies, such as this dissertation study, the voices of pregnant

women can tell us their lived experiences of participating in prenatal support groups that practiced stress-reducing MBE.

Social Support in a Learning Environment

Social support is generally considered to have a number of dimensions, including instrumental assistance, information provision, and emotional empathy and understanding. Moreover, social support operates on a number of levels including intimate relationships, friendships, and less formal neighborhood of community contacts. These types of collective support networks allow individuals to believe they are cared for, loved, and valued. Previous research has offered many conceptual and measurement approaches for social support. Some of that literature provides significance to this investigation in that the community-based purposive sample was drawn from consenting women who previously learned and practiced stress-reducing techniques (MBE) in group settings during their pregnancies. While the literature reviewed for this study did not reveal specific findings associated with using a support group setting for learning and practicing prenatal mind-body exercises, concepts and relationships found among a majority of the studies reviewed served to guide the assumptions and limitations of this dissertation (Cohen et al., 2000).

Norbeck et al. (1996) conducted a study to test a social support intervention to reduce the incidence of low birth-weight birth among low-income African American women. The low birth weight rate for African Americans is twice as high compared with Caucasians. The women in the study were tested for levels of social support at the midpoint in their pregnancies. Findings showed that the rate of low birth weight was 9.1% in the group that reported adequate levels of social support as compared to 22.4% in the control group. This study shows promise of the importance of social support. However, evidence suggests that more research with larger samples and with women in other ethnic and racial groups is warranted. Similarly, Buka et al. (2003) conducted a study on African-American women and found a relationship in perceived neighborhood support and infant birth weight. While a review of literature conducted by Hoffman and

Hatch (1996) found that social support from a partner or family member appeared to improve fetal growth in lower socioeconomic groups, occurrences and risks of preterm births remained unchanged.

A study by Feldman et al. (2000) tested a model of the association between sociodemographic and obstetric risk factors and birth weight. The researchers used a prospective study design and found that prenatal social support was associated with improved fetal growth rates and infant birth weights rather than those involving timing of delivery (pre-term or otherwise). The results of this study provide a basis for more support intervention research. While not associated with prenatal stress and coping, DiMarco et al. (2001) conducted a study to determine if a support group intervention made a difference in grief reactions of parents who experienced a perinatal loss. They found that there were no statistically significant differences in parents' grief reaction scores, but that there were differences in grief scores by gender and ethnicity. All parents perceived their spouses, extended families and their friends as "most helpful". Physicians were perceived as "least helpful".

In a study to determine the contributions of social support and perceived stress to the risk of small-for-gestational-age birth, Pryor et al. (2003) found that while support appears to reduce the risk of SGA births, after adjustment for ethnicity, support no longer played a role. Findings also revealed that stress during pregnancy was not associated with SGA birth. However, in another study by Scott et al. (1999b), evidence was reviewed regarding the effectiveness of continuous support provided by a trained laywoman (doula) during childbirth on obstetrical and postpartum outcomes. The results suggest there are benefits of decreased anxiety, positive feelings about the birth experience and increased rates of breastfeeding when doulas tended to the women. In the postpartum period there were benefits of decreased symptoms of depression, increased self-esteem, breastfeeding, and increased attentiveness of the mother with regard to the child's needs. In this dissertation study, some of the findings inferred that participation in the support group where MBE was learned and practiced played a vital role in the women's used of MBE as a stress-management strategy during pregnancy. However, the participants did

not continue MBE after pregnancy, but they no longer had a support group to assist with that.

Canuso (2003) conducted a qualitative study to describe the experiences of a group of Early Head Start (EHS) mothers who participated in a project that was designed to improve their involvement in their prenatal care by using peer and professional support in a support group setting. The important themes that emerged in qualitative analysis included the reduction of isolation and promotion of bonding, information sharing and modeling to others, and enhancement of self-esteem. Also discussed is how community health nurses can use these strategies when providing care for pregnant women.

To help change attitudes and behaviors in the group setting, psychoeducational approaches are often combined with psychological strategies. In one randomized control trial conducted by Saisto et al. (2001), ten group sessions were provided to 176 low-risk healthy pregnant women to test whether fear of giving birth vaginally would be decreased by their participation in the groups. While anxiety did not decrease in the treatment group as compared to the control, two specific items, fear of labor pain and fear of the obstetrician's unfriendly demeanor, differed between groups at post-intervention. It was also found that the treatment group's worries about birth decreased and their mean labor time was shortened. As seen in this study conducted by this investigator, the women found positive reinforcement for learning and practicing MBE within a psychoeducational support group setting. Many participants stated that they would not have practiced MBE if they had not been in the safety of a group setting while pregnant.

In a second intervention study conducted by Saisto et al. (2006), five weekly group sessions were offered where fears and feelings about childbirth could be discussed and positive birth imagery and relaxation exercises were taught. Subjects included in the study were 187 primiparas with severe fear of childbirth. Results found that more women in the intervention group chose vaginal birth (82%) as compared to the control group (62%). The mean length of labor was 45 minutes shorter for the intervention group. The results suggest that psychoeducation is one intervention that can effectively decrease the

fear of childbirth. As was found in this dissertation study, the women revealed the positive reinforcement of learning MBE within a confidential support group setting.

Affonso et al. (1999) conducted a study to evaluate psychological change in women of three minority ethnic groups. Two hundred twenty-three nulliparous women received a psychosocial package conducted by public health nurses in individual sessions to promote adaptation to pregnancy. The cognitive adaptation lessons consisted of stress management, information on childbearing topics, utilization of social support, and the integration of cultural beliefs and ethnic healers into the lives of pregnant women. Results demonstrated, by the third trimester, the intervention group had significantly lower scores for stressful events and Global Severity than controls receiving standard care. These changes also held true at the three month post-partum assessment when the treatment group scored higher on purpose of life, mastery and self-esteem. While this dissertation is different in scope, it is interesting to note that the women in this study did not continue to use MBE, as taught in the prenatal support group, as a stress mediating tool in the post-partum period.

Many researchers have examined the effectiveness of various social support interventions among samples of parents coping with perinatal losses (Cote-Arsenault & Freije, 2004) and new mothers' life course development (Kitzman et al., 2000; Olds et al., 1998). Positive outcomes for infants, mothers, parents, and families dominate the findings of these and many more studies of social support. Therefore, the significance of social support is understood in this study as a factor that may influence subjective views and experiences of the post-partum study group as reflected in their narratives that revealed patterns of use and disuse of mind-body exercises during and after their pregnancies.

In conclusion, findings from studies of mind-body interventions show that they may reduce stress in the human condition, but no such studies using samples of pregnant and post-partum women are found (Williams et al., 2001a). There is sparse research using qualitative research methods. Many researchers recommend that qualitative studies be undertaken to better understand the problem of prenatal maternal stress. This study

describes the lived experiences of prenatal stress and mind-body exercises among a diverse sample of post-partum women who previously learned and practiced stress-reducing techniques during their pregnancies. The stories the women tell about their definitions of and experiences with prenatal stress and their reflections upon the essences and meanings of mind-body exercises give direction to future clinical development and testing of prenatal stress-mediating interventions.

SUMMARY

In the review of the literature it became clear that stress has a negative impact on both the mother and infant. While there has been much research on the deleterious effects of prenatal maternal stress on birth outcomes, the problem is even more apparent in the United States, as the preterm and low birth weight rates continue to rise.

The gap that exists in the literature is the lack of research on the effects of a prenatal support group intervention to relieve stress. Mind-body interventions have also been shown to be stress reducing, but no such studies exist that investigate the benefits during pregnancy (Williams et al., 2001a). There is sparse research using qualitative research methods. Many researchers recommend that qualitative studies be performed to better understand the problem of prenatal maternal stress. Building on the literature findings presented in this chapter, it was the goal of this investigator to explore the experiences of pregnant women that had attended a prenatal support group where they were taught mind-body interventions, and to illuminate ways that nurses and healthcare providers may recognize and provide early intervention to reduce prenatal stress.

CHAPTER THREE: METHODOLOGY

INTRODUCTION

This chapter describes in detail the research design and methods used to achieve the specific aim and answer the research questions put forth in this study. Procedures used to collect, analyze and interpret data are described as well as the standards used to evaluate scientific rigor. The protection of human subjects is also addressed in this Chapter. The study's findings are presented in Chapter 4. Discussion, conclusions and recommendations are found in Chapter 5.

To review, the specific aim of this descriptive phenomenological study (Giorgi, 1985; Husserl, 1964) was to elicit and describe what the reflections post-partum women with prior training in stress-reducing techniques reveal about their lived experiences with prenatal stress and the psychological meanings they ascribe to how, when and where they acted to mediate the stress they experienced. Guided by this aim, a descriptive phenomenological research approach, developed by Giorgi (1985) and modeled after the works of Husserl (1964), Merleau-Ponty (1962), and Patton (1990), was used to answer the following research questions: 1) What are the lived experiences of prenatal stress among post-partum women who learned and practiced mind-body exercises as a stress-reducing technique during their pregnancies?, and 2) How do post-partum women with previous mind-body exercise training describe their lived experiences using this stress-reducing technique during and after their pregnancies?

The remainder of this chapter presents an in-depth discussion of the methods and procedures used.

STUDY DESIGN AND METHODOLOGY

Despite the large body of evidence that supports causal relationships between prenatal stress and unfavorable birth outcomes, few qualitative studies that explore subjective perspectives of post-partum women regarding experiences with and management of prenatal stress were found in the literature. Given the significant role that

stress control plays in the well-being of pregnant women and their unborn babies, this study was deemed necessary in order to capture women's perspectives and to begin to fill in the gaps in knowledge regarding this crucial aspect of prenatal and possible postnatal well-being.

Introduction to Phenomenology as Philosophy and Method

Phenomenology is both a philosophical perspective and a research approach (Lopez & Willis, 2004). Phenomenology, as a philosophical perspective, recognizes and affirms that every individual creates subjective and unique awareness of meanings that particular events and experiences have in his or her life. Phenomenology, as a research approach, is recognized as a means to study first order perceptions and reflections that comprise subjective truths and understandings that individuals construct about their lived experiences (Merleau-Ponty, 1962). Historically, phenomenological research methods have been loosely described and difficult to standardize and carry out. However, the overall goals of phenomenological research have remained unchanged in that they aim to capture people's descriptions of their own life experiences, permit researchers to understand experiences in the context of a story tellers' consciousness, and facilitate the abstraction and interpretation of new knowledge not previously understood by other means (Todres & Wheeler, 2001; Von Eckartsberg, 1998).

Sokolowski (2000) stated that phenomenological research must grasp the whole meaning of conscious life experiences, not parts of experiences taken out of context. In other words, Sokolowski insists, as do most phenomenologists, that lived experiences cannot be understood apart from how the person who lives the experience describes it. These are very important premises. They give direction to phenomenological researchers and the methods they employ, regardless of the philosophical differences between various schools of thought within phenomenology (Caelli, 2000). The application of the underlying premises discussed here is detailed in the remainder of this chapter as the research methods and procedures employed in this study are explained.

History of Descriptive Phenomenology and Fit for this Study

Because this study aimed to understand the essences and meanings of stress and mind-body exercises in the context of pregnancy, a descriptive phenomenological research approach was deemed appropriate to elicit narrative reflections of such experiences from a purposefully selected study group. Descriptive phenomenology dates back to the existentialist Husserl (1964), also known as the father of phenomenology (Cohen, 1987; Spiegelberg, 1975). Husserl's interest in understanding human consciousness and the psychological structures that support it led to the development of the research approaches adopted for use in this study (Giorgi, 1985; Husserl, 1970; Pivcevic, 1970).

Followers of Husserl, namely Merleau-Ponty (1962) and Giorgi (1985), have extended his perspectives and further explicated the various characteristics and procedures suggested as appropriate for use when conducting descriptive phenomenology (Giorgi, 1985). Giorgi made major contributions to the conduct of descriptive phenomenology by clearly articulating its principle characteristics and describing the methodological procedures aligned with them.

Giorgi (1985) posited that the first characteristic of descriptive phenomenology is description. Goals to describe phenomena in the truest sense of how they are experienced require researchers to stay close to the narrative reflections of study participants and avoid prematurely jumping to conclusions that are entrenched in theory or tacit knowledge. In this study, strategies and methods that facilitated descriptions of prenatal stress and its management, from individuals known to have experienced pregnancy and mind-body exercise training, were carefully designed and carried out. More specifically, the strategies and methods which involved Giorgi's position on description guided the development of the interview questions employed in this study (Appendix C), the eligibility criteria and recruitment strategies used, bracketing procedures used by the researcher, and the data analysis operations performed.

Reduction, Giorgi's (1985) second characteristic of descriptive phenomenology, is not the same type of reduction seen in quantitative studies. Rather, Giorgi views reduction as the researcher's commitment to seeing the meanings of participants' experiences "through their own eyes," understanding them "exactly as (they) appear" in

narrative reflections, and avoiding changing participants' experiences to something "we [would rather] see" (Giorgi, 1985, p. 48). Activities in this study guided by Giorgi's characteristic of reduction included the researcher's documentations of her movements through the data (e.g., codebooks, methodological notes, personal journal), the verification of the researcher's understandings by study participants, and the employment of consultants with expertise in qualitative methods who independently audited the researcher's interpretations.

Giorgi's (1985) third characteristic of descriptive phenomenology, the search for essences, guided this researcher throughout sample recruitment, data collection, and data analysis phases of this study. The search for essences was carried out while the researcher simultaneously or iteratively moved between seeing emergent meanings in the data and the recruitment of additional members of the study group in order to capture the broadest collection of perspectives about the phenomena of interest. Cues that the search for essences was drawing to a close revealed themselves when situational and general meanings of experiences within the study group were saturated. That is, when meanings of specific phenomena revealed themselves as stable or invariant across the study group, recruitment of additional participants ceased (Lincoln & Guba, 1985; Sandelowski, 1986). Further discussion of this third characteristic is found in the data analysis section of this chapter.

Lastly, Giorgi's (1985) fourth characteristic of descriptive phenomenology, the focus on intentionality, served to reinforce this researcher's commitment to hearing and seeing emergent essences and meaning structures described by study group members as real objects of their consciousness. In this study, the focus on intentionality permeated every step of the research process. The intent to elicit thick and rich data motivated sample recruitment strategies and data analysis procedures that revealed emerging essences and meaning structures in addition to guiding the size of the sample. Further, the researcher stayed close to the descriptive data when labeling meanings and clustering or gathering individual descriptions into meaning units. Intentionality was also practiced when statements about the phenomena of interest were inducted and expressed during data interpretation operations and conclusions.

In conclusion, the descriptive phenomenological research approach used in this study was guided by Giorgi's (1985) four characteristics, and permitted this researcher to achieve an abstract understanding of the study group's concrete descriptions of their conscious experiences with prenatal stress and mind-body exercises. Interpretation of their descriptions led to the discovery of new knowledge about the phenomena and ways in which meaningful interactions between study group members and stress-reducing strategies can be applied to and tested in clinical settings.

The Significance and Practice of Bracketing in Descriptive Phenomenology

Most qualitative researchers, including phenomenologists, caution investigators that in order to learn and understand the meanings that specific phenomena have for those being studied, they must blind themselves to all preconceived notions about those phenomena in favor of yielding to another's conscious understanding of experiences in his or her lifeworld (Husserl, 1964; Husserl, 1977; LeVasseur, 2003; Lopez & Wills, 2004). The researcher's practice of blinding or bracketing, according to Husserl, allows the true meaning of the phenomena to emerge via the study participants' reflections as verbalized in their narratives (Koch, 1995).

While a thorough review of literature was necessary to establish the state of knowledge prior to the conduct of this dissertation, this investigator consciously bracketed both her familiarity with the literature and her professional clinical experiences during data collection and analysis. Bracketing was practiced, documented, and analyzed by this researcher. Data pertaining to bracketing in this study are found in the researcher's personal journal and in related procedural and methodological notes. The purposes of recording and analyzing the practice of bracketing were to raise the researcher's level of awareness of possible bias, protect the study's data from contamination by such biases, and provide transparent data that objective reviewers are able to critique when evaluating the rigor and truth value of this study (LeVasseur, 2003).

Sampling Model, Eligibility, and Recruitment Procedures

The strategies associated with purposeful sampling (Glaser & Strauss, 1967) were combined with principles of maximum variation sampling (Lincoln & Guba, 1985) to recruit and enroll participants in this study. A purposeful sample is recruited when a researcher knows that particular individuals with specific experiences or exposures to the phenomena of interest are capable of describing contexts, essences and meanings of their interactions with those phenomena. Glaser and Strauss (1967) and Patton (1990) further credit purposive sampling with providing researchers opportunities to discover and collect rich and thick descriptions of individuals' experiences with those phenomena.

Purposeful sampling was the sampling strategy employed in this study to achieve a diverse sample of eligible participants with knowledge about and experience with the phenomena of interest (Lincoln & Guba, 1985). Eligible participants were recruited with attention paid to differences among attributes and characteristics such as age, socioeconomic status, cultural identity, number of pregnancies and living children, and education. In qualitative research studies, where random sampling is neither appropriate nor attainable, purposeful sampling aims to provide the researcher with a group of participants that holds the widest variation of perspectives about and experiences with the phenomena in question (Sandelowski, 1986).

Participants for this study were recruited from east and southeast Texas, where prenatal education programs that included lessons and practice sessions in stress-mediating techniques were offered over a two-year period prior to the conduct of this study. Eligibility criteria for participation in this study were: 1) being female and 18 years of age and older; 2) having learned and practiced prenatal stress-mediating techniques during a past pregnancy; 3) being post-partum for a minimum of two months and a maximum of two years prior to consenting to participate in this study; 4) being able to understand and speak English; and 5) not being pregnant at the time of participation in this study.

On-going recruitment strategies used by this researcher to achieve a diverse purposeful sample were guided by continuous analysis of the demographics of the existing sample, the eligibility and qualifications of each additional prospective

participant who called the researcher to learn more about the study, and the themes that were emerging from the narratives. Active recruitment of the sample ended when redundancy and saturation of the data were reached (Lincoln & Guba, 1985; Sandelowski, 1986). Lincoln and Guba (1985) state that data saturation occurs when no new themes emerge from the data, and that data redundancy occurs when emergent themes repeat themselves. In this study, both data saturation and redundancy were reached when data from the tenth participant were analyzed and conceptual themes from those data were determined to be the same as those already revealed.

To verify that data saturation and redundancy were achieved, two additional sample members were recruited and enrolled. Without the emergence of any new data in the forms of meanings and interpretations, sampling ended. A full description of the purposeful sample of 10 participants in this study is provided in Chapter 4.

Protection of Human Subjects

It is said that researchers have an ethical responsibility to protect human rights of research subjects. The human rights that demand protection in research are: right to self-determination, right to privacy, right to anonymity and confidentiality, right to fair treatment, and right to protection from discomfort and harm (Polit & Beck, 2006). This researcher ensured that the rights of this study's participants were protected in the following ways. First, written informed consent was required of all participants. Full disclosure in this manner allowed potential participants to decide for themselves whether taking part in this study was right for them. Having each participant keep a copy of the signed consent form facilitated communication with the researcher and served as a reminder of what was expected of them during the project. It also was their record of how to make contact with supervisors and administrators in the event that they needed to speak to someone other than the researcher about the study.

Giving consenting participants a choice as to where they wished to meet with the researcher for scheduled interviews also protected their human rights. All participants in this study chose to be interviewed in the researcher's private office. Providing a private location free from interruptions and public traffic ensured the right to privacy. While the

numerical coding of study data ensured anonymity, protecting the confidentiality of study participants was more difficult to guarantee. This is a common challenge among qualitative researchers because the researchers and participants typically meet in person. When this happens, it is possible for other individuals not related to the study to notice the two parties together and conclude that one is actually a study participant rather than a different type of acquaintance. In conducting this study, the researcher made every effort to protect confidentiality, including never calling the participants by name during the taping of the interviews and locking up contact information for each participant in files kept separate from study data. In addition, aliases were assigned to each participant and direct quotes were modified to prevent readers of the study findings from connecting a person's identity to something they believe to be a typical verbal expression of someone they think they know.

The written consent form made clear to the participants that they would be able to stop the interview as well as remove themselves from the study at any time without penalty. It was also made clear that each participant is treated equally in that they would be asked the same questions and be interviewed for the same periods of time. Each one knew the compensation for their participation was equal to all others. The full consent form is found in Appendix A.

The identification code number assigned to each participant was used to mark the bio-demographic data sheets, taped interviews, and transcriptions so the researcher could go back to any participant to ask for clarification of anything said during the interviews. Participants' names and their identification numbers never appeared on the same records that held study data. Only one legend that allowed the researcher to connect identification numbers and participant identities was created. It was kept in a locked drawer in the researcher's office, separate from any other study materials.

UTMB's IRB determined that this study was low-risk for physical harm and minimal risk for the loss of confidentiality, due to the face-to-face nature of the interview setting. There were no unexpected occurrences during this study. One potential participant withdrew her consent to participate in this study due to family demands and one potential participant was classified as ineligible based on failing to complete the full

set of lessons offered to learn prenatal stress-mediating interventions while pregnant and prior to the conduct of this study.

Following the university's IRB approval to conduct this study, recruitment letters, flyers, and telephone scripts (Appendices D, E, & F) were used to provide information about the study to post-partum women throughout communities in east and southeast Texas. Information summarized the goals, eligibility, and how to contact the investigator to learn more about this research. All women who previously learned and practiced stress-mediating techniques in prenatal support group settings during their pregnancies received recruitment letters in the mail. Flyers were posted in clinics and doctors' offices as well as community settings where prenatal support groups were known to meet so that all interested and eligible individuals would have equal opportunities to know the study was being conducted and how to contact the investigator if they wanted to learn more about the study.

Once potential participants indicated they were satisfied with contents of the consent form and with answers to their questions, they proceeded to sign the consent form. The researcher kept one copy and the other was given to the consenting participant for her records. Following the signing of the consent form, the researcher and each participant agreed to a meeting time and place to conduct the private face-to-face interview. At the time of the interview, bio-demographic data were collected to facilitate the sampling strategies and provide a description of the sample.

Data Collection

The primary data collection strategy employed in this study was the interview. It was used to elicit the narrative stories of study participants' experiences with prenatal stress and mind-body exercises during pregnancy. The development of the interview guide (Appendix C) used in this study was guided by the study's aim and research questions and Giorgi's (1985) characteristics of descriptive phenomenology. Specifically, the interview questions asked participants to tell the researcher stories about their experiences as they reflected upon them retrospectively, to stay focused on the intentions of their interactions with the phenomena under study, and to describe the essences and meanings of their experiences. The narratives generated during conversations with the

research participants revealed thick and rich descriptions of their lifeworld views (Koch, 1995; Lopez & Willis, 2004) of prenatal stress as well as the use of mind-body exercises both during and after their pregnancies.

Procedurally, each interview began with greetings and an offer by the researcher to answer any questions. Bio-demographic data (Appendix B) such as age, number of pregnancies, live births, family composition, employment status, and frequency of participation in mind-body exercise support groups during any pregnancies were collected prior to asking the questions on the interview guide. Each interview was limited to 90 minutes to avoid fatigue. Only in cases when participants were not able to answer all of the interview questions in one interview session were second interviews anticipated. In this investigation, it was the case that no second interviews were needed. Three study participants were contacted to provide clarification of their interview data. No clarifications provided by these three study group members changed any of the researcher's findings or conclusions during or after data analysis (Lincoln & Guba, 1985; Sandelowski, 1986).

Below are four examples of interview questions taken from the full interview guide found in Appendix C:

1. When you learned about mind-body exercises during prenatal group meetings, what were your thoughts about them?
2. Tell me about how and when you practiced mind-body exercises during pregnancy.
3. Tell me about the times when you used mind-body exercises during times of stress now that you are not pregnant.
4. Tell me how you know if and when mind-body exercises help you reduce the amount of stress you feel.

All interviews sessions were audiotaped and later transcribed verbatim to facilitate data analysis. Transcriptions were checked for accuracy by the investigator as she replayed the tape recordings while reading the transcribed data.

Additional data collection tools used during this study were the researcher's journal and methodological or field notes. The researcher's journal contained her thoughts and feelings about the setting and reactions to verbal and nonverbal responses of the participants. Thoughts and ideas concerning the study that arose from the execution of study procedures and dialogues with participants were recorded as field notes. The journal and field notes were studied along with each interview transcript in order to capture contextual and personal issues that may have influenced study procedures or researcher bias. Collectively, all journals and notes, together with thorough documentation of study procedures, provided an audit trail for use by other researchers wishing to replicate this study and evaluate its scientific rigor (Burns & Grove, 2005; Cutcliffe & McKenna, 2004).

As was discussed in the sampling section, bio-demographics of study participants were collected and analyzed to both describe the sample and guide the investigator in the continuous recruitment and selection of additional eligible participants. The bio-demographic data collection guide used in this study is found in Appendix B. A complete description and discussion of the study's sample is found in Chapter 4.

Introduction to Premises that Guided Data Analysis in This Study

Data analysis in all qualitative research traditions overlaps with data collection, purposeful sampling, and data interpretation (Sandelowski, 1995). According to Tesch (1990) and Sandelowski (1995), qualitative analysis is a means to knowledge development that involves breaking down data as a first step and reconstructing data into new and meaningful wholes as a final step. As a first step, breaking down the data provides the researcher with a first-hand glimpse of the experiential knowledge the study group members have with the phenomena of interest.

In this study, the early phase of breaking down the data was also guided by the characteristics of descriptive phenomenology put forth by Giorgi (1985). Specifically, during the breaking down process, the researcher focused on becoming familiar with the participants' intentions, in their own words, as described throughout the narratives. To monitor and evaluate the appropriate reduction of narrative descriptions of phenomena,

codebooks (Appendix G), notes, and journals were established to create an auditable trail of the researcher's cognitive, psychological, and methodological movements during data analysis. These recordings constituted the evidence needed to determine how closely the researcher adhered to the essences and meanings expressed by the study group.

Following the breaking down of the data, during which the researcher sees common and unique understandings and meanings across the study group, the organization of those data into "meaning units" occurs (Giorgi, 1985; Tesch, 1990, p. 116). Clustering or bundling common meanings into mutually exclusive units permits the researcher to see the data in new ways. While it is always necessary for the researcher to stay close to the data and avoid seeing only what he or she wants to see, gathering similar descriptions into meaning units facilitates the emergence of higher order conceptualizations and theoretical statements that can be understood by audiences who are otherwise unfamiliar with the phenomena under study (Patton, 1990). Giorgi (1985) has suggested that these operations are consistent with his characteristics of descriptive phenomenology.

In final stages of qualitative data analysis, the researcher engages in the intellectual work of interpretation. While the ultimate goal of qualitative data analysis is to produce new knowledge that makes the strange more familiar, Sandelowski (1995) suggests that findings reported in forms of lists of themes and categories fall short of the goal. She emphasizes that the work of the qualitative researcher is done when interpretation (new knowledge) rather than preliminary description is produced.

In the case of this study, the goal to produce theoretical statements that serve as sources of future research questions was reached when general essential meanings of prenatal stress and mind body exercise (MBE) emerged from the synthesis of general structure statements. Using Sandelowski's mandate to keep new knowledge "faithful to the data in its original form" (Sandelowski, 1995, p. 372), instances of data excerpted from actual participants' narratives are displayed within each section of study findings reported in Chapter 4. In addition, two experienced qualitative researchers participated in a study audit whereby codebooks, transcripts, and texts of the procedures and findings were evaluated for scientific rigor (Burns & Grove, 2005).

Faithfulness, as a standard against which the validity of interpretations of narrative data is measured, is linked in principle to Giorgi's (1985) characteristics of description and reduction. Giorgi reminds us that interpretations of data must not be biased, altered, or presented in terms that are not founded in the stories of study participants. To carry out tests of faithfulness and validity two researchers performed audits. More details about audits are provided later in this chapter during the discussion of rigor.

Specific Data Analysis Procedures Employed in This Study

The specific data analysis methods and procedures used to capture the essences and meanings of prenatal stress and MBE among study group members are described and discussed in this section. Once again, Giorgi's (1985) influence upon the conduct of descriptive phenomenology will be apparent as each qualitative data analysis procedure is discussed. Explanations of Giorgi's influence are important to understand so it becomes clear that the qualitative data analysis procedures used here are consistent with premises and assumptions of descriptive phenomenology. Arguments remain, among qualitative researchers, that qualitative data analysis procedures are not generic but instead are research method-specific regardless of how similar the procedures are in logic and outcome (Lincoln & Guba, 1985; Patton, 1990; Sandelowski, 1995; Tesch, 1990).

References made in the text to the codebooks that are found in the appendices of this report are for the convenience of readers who may want full exposure to the data analysis operations and for those who want to audit the decision trail carried out by this researcher. Auditing the decision trail is one common element in the important evaluation of scientific integrity, truth value, and rigor of qualitative research studies (Sandelowski, 1986).

According to Giorgi (1985), data analysis in descriptive phenomenology proceeds through various steps, not different in intent than those suggested by a myriad of other qualitative researchers and data analysis experts (Bailey & Tilley, 2002; Bazeley, 2007; Kleinman, 2004; Silverman, 2001). The approach carried out in this study included the division of the transcribed narratives into meaning units, the analysis and transformation

of meaning units, the logical induction of situated structure statement(s), and the abstraction of a final general structure statement. While these activities sound straightforward, they involved intense concentration and protracted periods of time to perform them. In the following paragraphs, the activities performed by this researcher during data analysis are described in detail.

EARLY SORTING OF NARRATIVES INTO CONCEPT BASKETS OR MEANING UNITS

To carry out Giorgi's (1985) data analysis approaches, this researcher broke down or deconstructing the transcribed narratives into preliminary meaning units. This operation was achieved by repeatedly reading every transcript until a general sense of each participant's story was appreciated. This first reading, which Giorgi calls *familiarization*, serves the purpose of leading the researcher to an understanding of the language the participants use while describing their experiences with the phenomena of interest. During *familiarization*, the researcher stayed close to the descriptions of participants' experiences by focusing on their own words and intentions.

Once the investigator grasped the participants' stories, she returned to each transcript and performed a line-by-line analysis of the descriptions being discussed. The line-by-line analysis allowed the researcher to underline and highlight participants' own words and statements that communicated descriptions of individuals' conscious awareness of the phenomena under study. The underlined and highlighted statements were then tagged with a code number that was assigned by the researcher to represent each of the study's phenomena: stress; stress during pregnancy; feelings during stress; thoughts and actions when stress occurs; responses to stress before, during, and after pregnancy; thoughts about the unborn baby; what to do about stress; mind-body exercise practices; other stress mediators; and what to tell others about stress. The researcher used the codes assigned to the phenomena to pull the like-tagged statements from all of the transcripts and gathered them together in *concept baskets* or *preliminary meaning units* so that more in-depth analysis of the data could take place.

The gathering and storing of like-tagged descriptive statements into *concept baskets* or *preliminary meaning units* at this early stage of data analysis provided the researcher with opportunities to examine essences and meanings within and across the baskets or units. The results of tagging, gathering, and storing functions performed during this early stage of data analysis are displayed in Codebook 1, which is found in Appendix G. The codes and descriptive labels used to identify concept baskets or meaning units in Codebook 1 attest to the researcher's commitment to stay close to the narrative descriptions of experiences with phenomena, as required by Giorgi (1985). In addition to keeping meaning units close to the descriptions of the participants, labels for the concept baskets or meaning units represent the researcher's best guesses or hunches about the type and substance of meanings being communicated.

Once the like-meaning data were organized in Codebook 1, the researcher intensively analyzed data in each basket or unit. During this intensive study of participants' descriptions in Codebook 1 baskets or units, statements that no longer fit with the apparent emerging conceptualizations were recoded and moved to different baskets or units where there was a better fit. Some outliers were set aside and the researcher prepared for the next inductive exercise.

The focus on intention that Giorgi (1985) instructs the researcher to carry out was the next activity in logic whereby an intensive analysis of each basket and unit was performed. The focus on intention facilitated the researcher's recognition of psychological as well as cognitive meanings and essences revealed in the study group's descriptions of their experiences with the particular study phenomena in each basket or unit. As Giorgi had suggested, the psychological transformations and intentions of the participants' experiences with the phenomena were revealed to this researcher during the logical operations of reduction, induction and abstraction. These higher order conceptualizations emerged from many detailed explanations and understandings in which participants discussed their interactions with phenomena, decisions they processed regarding their relationships with the phenomena, and the way in which they differentiated how, when, and why they engaged or did not engage with study phenomena.

During this phase of data analysis, the transformations, intentions, and emergent psychological and cognitive meanings and essences became the new organizational tags for the next level of abstracted commonalities recorded in Codebook 2 (Appendix G). A detailed explanation of the analysis of data transformation follows in the next section and serves to make transparent the researcher's movements and decisions about the emergence and recognition of meanings.

MEANING UNIT ANALYSIS OR TRANSFORMATIONS

According to Giorgi (1985), meanings emerge during stories when the conversation makes a transition from a mere telling of facts to the revelation of an explanation, an understanding, and a psychological perspective that a participant has formed about a phenomenon. In order to accomplish the recognition of psychological meanings and essences communicated by the participants, this researcher engaged in an intense study of the collections of the participants' own words that were in each concept basket or meaning unit displayed in Codebook 1. Based on this intense engagement with the sorted data, transformations in meanings of phenomena became apparent as the collections of participants' descriptions revealed a 'whole' or gestalt meaning that was embedded in the context of each individual's encounter with the phenomena, their conscious awareness of their relationship with the phenomena, and the effects that knowing and being with the phenomena had on their lives (Von Eckartsberg, 1998).

Emergence of the 'whole' or gestalt was accomplished through data reduction, whereby similarities in participants' own consciousness were grouped to form more abstract or higher order meanings that remained true to the participants' common and consistent points, not to the preferences of the researcher. With the emergence of 'whole' or gestalt meanings also came recognition of descriptions that no longer fit with the reduced or collapsed organizations of abstracted transformations and meanings. Therefore, at this phase in the refinement of Codebook 2, non-fitting descriptions and conceptualizations were re-coded and moved to baskets or units with a better fit. In some cases, instances of data were simply set aside for lack of fit.

During these transformation operations, labels and codes used to organize and display the abstractions in Codebook 2 were developed from collective meanings among the participants' descriptions. Visualization of the collapsed data and emergent psychological and cognitive meanings and essences prepared the researcher to move to Giorgi's (1985) next step, the point at which situated structured statements are formulated (see Table 4.2, Chapter 4). A record of movements from the concrete descriptions found in Codebook 1 to the collapsing and abstraction of 'whole' and gestalt meanings in Codebook 2 add to the auditable trail that contributes to the evaluation of truth value and scientific rigor in this study.

Final data analysis steps in this study involved the interpretation and articulation of situated structure statements (Table 4.2) and general structure statements (Table 4.3). All too often, qualitative researchers are negatively criticized for setting aside data analysis processes before they are completed (Sandelowski, 1986; 1996; 2002). That is, for qualitative study findings to be useful to clinicians and other researchers, statements that represent the meanings that phenomena under study have for participants must be formulated and made ready for testing. Isolated or loosely connected individual themes are thought to make few contributions to nursing's knowledge base.

While testable theories are not expected to emerge from every qualitative study with a small sample, findings presented as situated structure statements and general structure statements rather than isolated themes are likely to provide more cogent and useful forms for the study findings. Giorgi's (1985) explication of these expectations assisted this researcher in the completion of data analysis tasks and in the presentation of the findings. Codebooks in the appendices and tables in the text of Chapter 4 represent and display the coding, induction, abstraction, and synthesis operations that were performed during this study to arrive at the statements of general essential meanings of both prenatal stress and MBE. The following section describes in detail the statement-development phase of Giorgi's data analysis procedures.

THE DEVELOPMENT OF SITUATED AND GENERAL STRUCTURE STATEMENTS

The last phase of data analysis described by Giorgi (1985) is essentially two phases combined into one. That is, some researchers highly recommend combining efforts to interpret and articulate both the situated structure statements and general structure statements, simultaneously, to avoid redundancy in task performance and documentation. In this study, the work of interpreting specific or situated descriptions of psychological meanings of study phenomena, synthesizing and displaying them, and transcending specific situations to describe a general essential meaning that was valid and true for the entire study group (Von Eckartsberg, 1998) is displayed in codebooks (Appendix G), Tables 4.2 and 4.3 in Chapter 4, and in the text of the findings found in Chapter 4. Specifically, by using the analytical logic of induction and abstraction, this researcher reviewed the organizations and transformations of data and their meanings across Codebooks 1, 2, and 3, and prepared final statements that representing experiential meanings exclusive to the study group.

This concludes the discussion of data analysis procedures used in this study. The appendices, tables, and the texts of Chapters 3 and 4 constitute the auditable trail of logical exercises and decisions made by this researcher during the analysis of narrative data provided by study participants. It is recommended that readers refer back to Chapter 3 and associated appendices while reading the findings in Chapter 4.

A discussion of this study's methods and procedures would not be complete without a full description of the activities this researcher engaged in to establish the scientific rigor of the study. This topic is presented in the following section.

Establishing the Rigor of the Study

Given the goodness of fit between Giorgi's (1985) principle characteristics of descriptive phenomenology and the overall aim and questions put forth in this study, this researcher is confident that the procedures and findings of this study have significant scientific and clinical implications. However, the steps taken by this researcher to ensure the scientific rigor and truth value of this study also must be discussed (Lincoln & Guba,

1985; Sandelowski, 1986). Burns and Grove (2005) put forth five standards that can be used to evaluate the rigor of qualitative studies. These standards include: (1) descriptive vividness, (2) methodological congruence, (3) analytical preciseness, (4) theoretical connectedness, and (5) heuristic relevance. Each will be described below as it pertains to actions and decisions this researcher performed during the conduct of this study.

In preparing the detailed report presented in this dissertation, this researcher has addressed Burns and Grove's (2005) standard of descriptive vividness, which refers to making clear the factual details of the study. This report spells out the aims, questions, sample, setting, methods, procedures, and outcomes associated with the planning and conduct of this descriptive phenomenology. To evaluate descriptive vividness, a qualitative researcher skilled in the conduct of Grounded Theory said that after reading this report, he felt as though he could describe the social world of the study's participants and replicate the study, if desired, based on the details provided about methods.

Methodological congruence, i.e., Burns and Grove's (2005) second standard for evaluation of scientific rigor, refers to how well and consistently the researcher presents evidence that there are identifiable links between the underlying philosophy, epistemology, and the methods and procedures employed in the study. Subsumed under this standard of methodological congruence are four criteria that Burns and Grove state must be met. First, rigor in documentation was met by this researcher throughout the study, from the proposal stage through the completion of the dissertation. In doing so, scrupulous notes were kept; tapings and transcriptions along with other study materials were coded, recorded, and secured; and written descriptions of how documentation was carried out are detailed throughout. Secondly, procedural rigor was met by this researcher's commitment to learning everything possible about descriptive phenomenology, becoming a serious student of Giorgi (1985), and adhering to standards that Giorgi insisted be carried out in order for a study and its findings to be considered descriptive phenomenology. It was because of how carefully and fully Giorgi articulated the intentions of Husserl and Merle Ponty that vital instructions for executing all phases of descriptive phenomenology were made clear.

Fourthly, ethical rigor, and fifthly, auditability, are both explained as to how they were achieved in this study as criteria under Burns and Grove's (2005) standard of methodological congruence. This researcher completed two required and two elected qualitative research courses during her doctoral program and further expanded her awareness of research ethics and standards of conduct for researchers during two ethics courses. Because the face-to-face interviews conducted during this study presented a minimum risk of losing confidentiality for participants, more rigorous strategies for the protection of privacy for all participants were included in this study's procedures.

Ethical rigor was also ensured by requiring informed consent, informing participants of their rights, and ensuring their rights be protected. Identities were under lock and key, interviews were conducted in private rather than public locations, and, unless requested, participants were not contacted using their home telephones. Lastly, accurate and detailed accounts of this study are written in this report to provide a means to check the integrity of this researcher. Auditability is clearly possible because of the details with which this researcher constructed this report. In addition, the use of field notes, journal entries, transcriptions, and Codebooks permit others to follow the thinking of this researcher and evaluate for bias and any bracketing violations.

Burns and Grove's (2005) third standard for evaluating rigor, analytical preciseness, demands that the researcher identify and record all decision-making processes made while transforming the study's data. Evidence that analytical preciseness was met throughout this study and its report details of every step of data transformation are found in Chapter 3, Codebooks 1, 2, 3, and the appendices of this report. Movements through the data and that documentation are also linked to Giorgi's (1985) guiding standards, principles, and requirements. A thorough and logical presentation was carefully created, written, and substantiated by this researcher and monitored by her Supervisory Professor and other members of the Dissertation Committee.

Theoretical connectedness, the fourth standard Burns and Grove (2005) put forth for use in establishing and evaluating rigor in qualitative research, mandates that the theoretical schema presented as findings of the study be clearly expressed, logically

consistent, reflective and congruent with the data, and compatible with the knowledge base of nursing. The presentation of findings in Chapter 4 culminates with situational and general statements that are ready for testing and clinical application. This completeness was facilitated by Giorgi's (1985) clearly articulated characteristics and requirements for the conduct of descriptive phenomenology.

The fifth and last standard for rigor in qualitative research, developed by Burns and Grove (2005), is heuristic relevance. This standard requires that the written report of the study be so clear and detailed that the reader readily recognizes the phenomenon being described in the study, identifies the theoretical significance reported by the researcher, and understands how findings apply to nursing practice and future research. This last standard cannot be completely evaluated until after the members of the Dissertation Supervisory Committee have had the opportunity to read and critique this report and discuss their evaluations with the author. However, this report was written with the intent that heuristic relevance would be transparent for the readers.

SUMMARY

In this Chapter, the researcher provided detailed descriptions of methods and procedures used in the conduct of this study, discussed links between methods used and philosophical foundations and standards put forth by leaders in descriptive phenomenology, and guided the reader through a clearly articulated auditable trail of data analysis decisions and outcomes. This chapter, along with the presentation of findings in Chapter 4, is designed to allow readers to move through the study and its findings as if they were members of the study team. Lastly, this Chapter also addressed how Burns and Grove's (2005) standards for evaluating a qualitative study's scientific rigor were met by this researcher and where evidence to validate such claims can be found.

CHAPTER FOUR: FINDINGS

INTRODUCTION

The findings of this descriptive phenomenological study are presented in this chapter. The findings are in two forms. First, situated structure statements that reveal empirical level context-bound meanings and interpretations of experiences with prenatal stress and mind-body exercise (MBE) are presented and supported by instances of data from the participants' narratives. The situated structure statements and the accompanying instances of narrative data are important to the reader's basic understanding of how participants connected psychologically and cognitively with the phenomena and the constructed paradigms of meaning for each.

In essence, the situated structure statements revealed in this chapter are tangible, empirical representations of constructed meanings that study participants ascribed to prenatal stress and MBE. In the language of Giorgi (1985), they are expressed as descriptions (narrative reflections) and are supported by reductions (participants' own words) that communicate basic interpretations the study participants revealed while telling stories about their specific experiences with prenatal stress and MBE. The narratives revealed that when situations, settings, and conditions changed, so did participants' ascribed meanings and interpretations of the study's phenomena. Some were refined, transformed, or abandoned as new or expanded life experiences gave participants opportunities to reflect and form deeper understandings of their relationships with prenatal stress and MBE. Table 4.2 displays an overview of situated structure statements that are discussed in detail in the text.

The second form in which findings are presented are as general structure statements. As opposed to situated structure statements, which are understood at an empirical level and that communicate dominant variations in meanings within the study group, general structure statements reveal the common, invariable interpretations of prenatal stress and MBE at a more abstract and theoretical level. Such statements result

from Giorgi's (1985) search for essences, discussed in detail in Chapter 3. As Giorgi (1985) has suggested and as was found in this study, general structure statements represent a synthesis of the participants' collective, invariable conscious interpretations and existential transformations of experiences with prenatal stress and MBE.

More abstract and unified than situated structure statements, general structure statements reveal higher order psychological and cognitive understandings that participants arrived at as they tried to make sense out of lived experiences, including what happened to them, why it happened, what they should do about it, and how to determine if what they did was effective. When the general structure statements are presented later in this chapter, they will be accompanied by instances of data from selected participants' stories, which support how the general structure statements were inducted from situated structure statements and analyzed as existential transformations of experiences.

It is important to the scientific integrity of this study that participants' own words are used to illustrate and support the researcher's interpretations of rich and thick descriptions of subjective experiences (Burns & Grove, 2005; Glaser & Strauss, 1967; Lett, 1996). At the level of general structure statements, where Giorgi's (1985) search for essences is considered complete, the researcher's intention to remain focused on meanings revealed by study group members continues to be obvious in the form of reported descriptions. Table 4.3 displays an overview of general structure statements that are discussed in detail later in this chapter.

The next section of this chapter reports the description of the sample, including Table 4.1, which summarizes characteristics that are discussed in detail in the text. Following the discussion of the sample, findings will be presented.

DESCRIPTION OF THE SAMPLE OF PARTICIPANTS

Principles, methods, and procedures used to recruit and enroll this purposeful sample were described in detail in Chapter 3. To briefly review, ten participants completed this study and their characteristics and bio-demographic data are presented below in Table 4.1. Both the bio-demographic data and the meanings and interpretations

that emerged from participants' narratives were used to determine when and how well data saturation and redundancy were achieved (Lincoln & Guba, 1985; Sandelowski, 1986). Both criteria were met following the enrollment of the eighth participant; however, purposeful sampling continued with the goal of verifying saturation and redundancy and directing the researcher to stop recruitment and enrollment.

Data displayed in Table 4.1 below summarize the characteristics of the all-female sample of participants who identified themselves as having experienced prenatal stress and had previously completed a series of mind-body exercise (MBE) training sessions for stress management.

Table 4.1 Demographics of Study Participants

Code	Age	Education in Years	Pregnancies /Living Children	Ethnic Identity	Employment Status *	Relationship Child's Father **	Type of Delivery Hx	Last Type Delivery ***
01	31	16	1/1	Caucasian	N	MT	Caesarian	Caesarian (E)
02	35	17	2/2	Caucasian	FT	MT	Caesarian	Caesarian (R)
03	36	13	7/5	Caucasian	PT	MT	Vaginal & Caesarian	Caesarian (E)
04	27	12	1/1	African-American	FT	LANM	Vaginal	Vaginal
05	36	13	4/4	Hispanic	FT	MT	Vaginal & Caesarian	Caesarian (E)
06	36	18	2/2	Caucasian	N	MT	Caesarian	Caesarian (R)
07	27	16	1/1	Caucasian	FT	MT	Caesarian	Caesarian (E)
08	38	22	2/1	Caucasian	FT	MT	Vaginal	Vaginal
09	27	13	1/2	African-American	FT	LANM	Vaginal	Vaginal
10	30	16	2/2	Caucasian	FT	MT	Vaginal	Vaginal

*FT=works full time; PT=works part time; N=does not work outside the home

**LW=Living with; LANM=Living apart, never married; MT=Married to; D=Divorced; Un=Unknown

***E=emergency caesarian section; R=repeat caesarian section

The bio-demographic data revealed that participants ranged in age from 27 to 38 years. Their years of school completed ranged from 12 years to 22 years, which suggests that the group members had a minimum of a high school education and a maximum of more than one graduate degree. The self-identified ethnic affiliations group members described included Hispanic, African American and Caucasian. In all cases, the fathers of the children were of the same ethnic background as the mothers in the study. Eight participants were married to and lived with the fathers of their children. Two participants were single and lived with their child or children. The fathers of the children ranged in age from 26 to 41 years and all but one held a full time job. The type of work they did ranged from professional to skilled labor. Eight of the study's participants were employed outside of home and of those eight, seven worked full time and one worked part time.

The histories of number of pregnancies for the participants are as follows: (1) four participants had only one pregnancy, (2) four participants had two, (3) one participant had four pregnancies, and (4) one participant had seven. Four participants had one living child, four participants had two, one participant had four, and one participant had five. Four participants had histories of only vaginal deliveries, four had cesarean sections, and two experienced both vaginal and cesarean deliveries. Of the participants who experienced caesarian deliveries, two were repeat caesarian sections and four were emergency caesarian sections.

The children of the participants in this study ranged in age from one to twenty years. Two participants had miscarriages in their histories. Three participants revealed that they each had delivered one preterm infant of less than 37 weeks gestation. All of the participants denied smoking during pregnancy. One admitted that she smoked before her pregnancy and one participant stated that she currently smokes. Only one participant acknowledged drinking alcohol while pregnant. Seven participants confirmed drinking alcohol before they became pregnant and those same seven participants said that they currently consume moderate amounts of alcohol. All participants denied ever having taken illicit drugs, like marijuana or crack, while they were pregnant.

In summary, the findings from the analysis of bio-demographic data collected during this study reveal that purposeful sampling strategies facilitated the successful recruitment and enrollment of participants who represented diverse experiences with prenatal stress and mind-body exercises.

In the following sections labeled Part I and Part II, findings of this study address both research questions at two different levels of induction, abstraction, and theoretical relevance. Each section, “Part I: Situated Structure Statements as Findings” and “Part II: General Structure Statements as Findings,” begins with an introduction, offers an overview of respective findings displayed in table format, and presents a detailed discussion, which includes several supporting instances of data from participants’ narratives.

PART I: SITUATED STRUCTURE STATEMENTS AS FINDINGS FOR RESEARCH QUESTIONS 1 AND 2

Research Question 1: What are the lived experiences of prenatal stress among post-partum women who learned and practiced mind-body exercises as a stress-reducing technique during their pregnancies?

Research Question 2: How do post-partum women with previous mind-body exercise training describe their lived experiences using this stress-reducing technique during and after their pregnancies?

To answer research questions one and two at the level of situated structure statements, findings are organized by the contexts of prenatal stress and mind body exercise (MBE). Each situated structure statement is supported by instances of data excerpted from the transcripts that reveal empirical derivations of the researcher’s unbiased description of participants’ experiences with study phenomena.

Table 4.2 Overview of Situated Meanings and Interpretations of Prenatal Stress and MBE

SITUATED CONTEXTS, EXPERIENCES, AND MEANINGS OF PRENATAL STRESS AND MIND-BODY EXERCISE (MBE)	
SOURCES OF MEANING: EXPERIENCES WITH PRENATAL STRESS	SOURCES OF MEANING: EXPERIENCES WITH MIND-BODY EXERCISE (MBE)
Symptoms of prenatal stress Sources of prenatal stress Effects of prenatal stress What to do for prenatal stress	USEFULNESS OF MBE DURING PREGNANCY Knowing when MBE does and does not work Significance of post-partum MBE use
ABBREVIATED SITUATED STRUCTURE STATEMENTS: DESCRIPTIVE INTERPRETATIONS OF PRENATAL STRESS	ABBREVIATED SITUATED STRUCTURE STATEMENTS: DESCRIPTIVE INTERPRETATIONS OF MBE
Symptoms: <ul style="list-style-type: none"> • Not feeling physically well • Emotionally overwhelmed and out of control 	Usefulness: <ul style="list-style-type: none"> • Way to break the vicious cycle of stress • Tools to get to a better place
Sources: <ul style="list-style-type: none"> • Realizing you are responsible for another human being • Getting ready to parent 	Knowing: <ul style="list-style-type: none"> • Feel more like myself; relaxed • Mind is where it should be
Effects: <ul style="list-style-type: none"> • Stress makes you a different person • Passing stress to your baby is not good 	Significance: <ul style="list-style-type: none"> • Don't use it now that baby is not inside of me • Use them when I feel stressed • Use techniques to re-focus
What to do: <ul style="list-style-type: none"> • Rest and relax • Seek support from others • Walk and exercise 	

An overview of situated contexts, experiences, meanings, and descriptions of prenatal stress and mind-body exercise (MBE) are displayed in Table 4.2 below. A detailed discussion of the findings summarized in the table follows in the text and includes the dominant situated structure statements that represent context-bound meanings and interpretations of prenatal stress and mind-body exercise (MBE) revealed in the narratives of the study group. Instances of data that accompany and support the meanings and interpretations are the actual words of the participants whose stories most vividly illustrate the common, dominant reflections of the lived experiences explored in this study.

An understanding of these findings, in the form of situated structure statements, is essential before the more abstract answers to research question one and two are discussed in the form of general structure statements presented later in this Chapter.

MEANINGS AND INTERPRETATIONS OF PRENATAL STRESS

Symptoms of Prenatal Stress

Members of the study group shared their perspectives about what it was like to be stressed during pregnancy. Participants described specific signs and symptoms of the prenatal stress they experienced, making it clear that pregnancy was the meaningful context within which the particular symptoms were recognized and where hypotheses linking pregnancy and stress were psychologically and cognitively configured and explained.

Dominant symptoms of prenatal stress that emerged from analysis of the narratives were revealed as clearly noticeable conditions in both physical and emotional domains. ‘Not feeling physically well’ and being ‘emotionally overwhelmed and out of control’ represent the essences of what the women described during stories about symptoms of stress during pregnancy. It is also important to note that the women’s descriptions of their prenatal stress symptoms included the uniqueness of their feeling states and how stress during pregnancy was different from everyday types of stress they reported experiencing when not pregnant.

Not Feeling Physically Well

Most of the study participants described experiencing headaches, body aches, body swelling, a sick stomach, perspiration, increased heart rate, a hardening belly, and fatigue as meaningful physical symptoms of prenatal stress—symptoms they rarely experienced when not pregnant. Distinguishing between symptoms of prenatal stress and stress experienced in everyday life was clearly described by a 31 year-old first-time mother who spoke about fatigue during pregnancy. She said, “I never got tired of being pregnant, but I was physically tired from being pregnant” (S1 L38-40).

Headache was the study group's most common physical symptom of prenatal stress. Headaches significantly raised the group's conscious awareness of the need to take action to respond to this symptom because they believed that controlling stress was important to the health of their babies. An example of the situated structure statements that emerged from analysis of participants' narratives about headaches as signals of stress came from the transcript of a 27 year-old mother of one who is a college graduate and works full time. She said, "Headaches. . . I'd catch those warning signs, stop it, try to do something to refocus, change, or move that energy in a different way" (S7 L171-175).

Another same age participant with a high school education, who also worked outside the home, expressed the significance that a headache had for her as a physical symptom of prenatal stress. She explained differences she experienced between physical and emotional stress when she said, "I get a headache. Sometimes I get nauseated a little. Basically that's about it, but emotionally I get sad, or sometimes even depressed. Physical, emotional, a lot happens [during pregnancy]. . ." (S4 L29-32).

In addition to headaches, other physical manifestations of prenatal stress were described throughout the participants' narratives and are best summarized by one of the older mother's reflections upon her experiences and their meanings. She revealed:

Personally, [stress] is related to something physical, whether it's tension in my shoulders, or headaches, or just—you know—an increased heart rate, or perspiring, or something like that. I usually feel stress, sometimes before I even realize that there is stress" (S8 L15-21).

A 30 year-old married, college educated mother of two with a full time job described her experiences with fatigue as a physical symptom of prenatal stress and revealed the relationship she believed existed between stress and fatigue. She said, "I usually get myself so worked up [with stress]. I just wear myself out. That's one of the reasons I wanted to learn to control it. I was just tired all the time, just tired" (S10 L24-27).

While physical symptoms of prenatal stress were interpreted as quickly as they were experienced by most of the participants, emotional feelings, responses, and their meanings were processed thoughtfully over longer periods of time as participants

hypothesized connections between experiencing an array of unusual emotions and being pregnant. In the following section, discussion of the situated structure of emotional symptoms of prenatal stress continues with support from instances of data.

Emotionally Overwhelmed and Out of Control

The essence of feeling emotionally overwhelmed during pregnancy was revealed across the study as a symptom of prenatal stress not otherwise experienced in everyday life except in isolated in cases of unexpected illnesses or deaths. The women described psychological meanings of feeling emotionally overwhelmed during pregnancy as being related to increased anxiety about growing responsibilities and financial strain. A well-educated 36 year-old stay at home mother of two said that she felt stressed during her first pregnancy because, “I did not know what I needed to be – what I needed to have to be prepared as a mother” (S6 L94-96). She went on to say:

I just was overwhelmed to the point of tears. I literally cried because I couldn't believe all the stuff that I was supposed to buy; I was supposed to have. And I couldn't afford it. I couldn't afford all these wonderful things that everybody was saying I had to have (S6 L101-106).

While describing her emotional status during pregnancy, a younger stay at home mother with only one child said, “I tend to get a little anxious. . . and find myself not being able to think as clearly” (S1 L58-60).

In addition to feeling emotionally overwhelmed, feelings of being out of control during pregnancy also emerged as a dominant interpretation of symptoms of prenatal stress. A 35-year old mother of two with a full time job outside of the home described her emotional experiences with prenatal stress in the following way. She said:

The best way I can think to explain it is, it's a feeling and it just feels like things are getting out of control for me. It's kind of like there's a beehive in my head and they're starting to get more agitated and more agitated and it's just like the buzzing is getting to a higher level. And it's just—I like to be in control of what's going on and when I think that I am not able to control things, then it starts to stress me out and my hands will shake, I get emotional. I would cry easily (S2 L 68-80).

The oldest member of the study group with one living child and a history of one miscarriage also expressed that her experiences with prenatal stress were associated with feeling out of control. She said, “stress, to me means being out of control, like not having control over the situation, or not having control over my feelings and my reactions to things” (S8 L10-15).

Sources of Prenatal Stress

Sources of Prenatal Stress labels a cluster of situated meanings that participants ascribed to experiences they believed created stress in their lives during their pregnancies. Interpretations of situated prenatal stress that emerged from the narratives of the study group focused on two primary reasons. First, participants attributed their sources of stress to the realization that they were now “responsible for another human being.” This awareness stimulated many thoughts and feelings about how well they would carry out this responsibility, what factors could influence this responsibility, and what they needed to do to reduce prenatal stress so they did not pass the negative effects of stress on to their babies.

The second reason for or source of prenatal stress described by members of the study group revealed their worries about psychological, cognitive, and financial realities related to the responsibilities of parenting. For the sample, “getting ready to parent” held multiple meanings of what they expected of themselves, what they imagined they had to do, and what others told them was important. Descriptive meanings, interpretations, and instances of data that support situated structure statements regarding *sources of prenatal stress* are discussed in the following sections.

Realizing You Are Responsible for Another Human Being

At the same time that the participants experienced feelings of being overwhelmed and out of control, they also shared a meaningful understanding of the responsibilities that were about to assume as a parent. Many said they would be more attentive than ever to taking care of themselves because they associated their own good health with ensuring

the baby's good health. The oldest member of the study group shared her perspectives about being responsible for the health of her baby when she said:

Being pregnant was still about me, for the most part. What I mean by that, I was able to control what I was doing, and how I was able to take care of things. Taking care of my health was taking care of my son's health, but once he's born, just taking care of myself isn't enough, of course. Then, there are 2 of us (S8 L125-130).

Viewed as a meaningful source of prenatal stress, a sense of responsibility for another human being motivated the mothers in this study to accept that they had to practice healthy lifestyles in order to protect their babies from harm. A 27 year-old single mother revealed her concerns for the health of her unborn son in the context of accepting that during her pregnancy she had two people to care for. She said, "When I was pregnant and I would get stressed, I would get really scared, because I wasn't just thinking—it wasn't just me that I had to take care. I also had to take of my baby" (S4 L39-49).

A 27 year-old married mother of one who works full time outside the home expressed the dominant meanings and interpretations of other group members when she revealed how and why being responsible for another human being is a significant source of prenatal stress. Feeling like she was solely responsible for the baby's health comes across vividly in her narrative. She explained:

The pressure of making sure that I was taking care of my body [was stressful]. Ultimately, everything I put in my mouth, everything I did, was benefiting or hurting my child. That's I think the scariest thing I've ever had in my life, is to know that—I guess it's your first time to realize how responsible you're going to be for another human being. I think that's something that fathers never have, that the mother will always have, because you had that connection. Then, for 9 months, or for those weeks, they were all you. You're solely responsible, you know. If I took the stairs or if I took the elevator, it made a difference on how—they're just minor things, or if I had a coffee, or—you know—just everything that I did (S7 L88-102).

An older mother of four children expressed the same interpretations of relationships between prenatal stress and knowing that the mother is primarily responsible for the unborn baby. She said, "any little thing that I thought was going to

hurt the baby, I would just be a little bit more concerned about my health and try and take care of myself a little bit more” (S5 L209-212).

The situated meanings and interpretations associated with the first source of stress for this study group focused on their responsibilities for the well being of the unborn baby. The second source of prenatal stress, ‘getting ready to parent’ emerged from descriptions participants provided when discussing their doubts and trepidations regarding their capacities to adequately provide for the baby and be a good parent after the birth of the baby.

Getting Ready to Parent

For nearly all members of the study group, financial concerns about meeting the needs of the new baby were sources of prenatal stress. As reported in the description of this study’s sample, the financial status of participants varied and a strong thread of financial concerns prevailed in the stories of the women. A 27 year-old single mother of twins summed up what many other mothers said about financial concerns of parenthood being major sources of prenatal stress. She said:

I have major concerns about certain stuff, like how are you going to pay for stuff and do stuff and take care of business when you don’t really have the proper funds. Stress, basically, to me is just having a lot of issues and problems that you really need to get worked out (S9 L11-18).

There were a few mothers in the study group who revealed feeling overwhelmed by the need to prepare themselves for parenthood. In their experiences, they saw various things they needed to learn to cope with during pregnancy, not just financial concerns. Several were stressed out thinking about whether or not they would be good parents and do right by their babies. A married 27 year-old with one child and a full time job talked about how her prenatal stress was influenced by concerns she had about her abilities to be a good parent. She said in her story:

I know I needed to get ready for the baby. I had enough stuff financially for him, but I needed to get myself ready emotionally, and stuff like that stressed me out.

I would get scared that something was going to be wrong with him if I stayed stressed. . . I'm like, you're going to have a child. You got to get in a parenting mode or whatever. I tried to get myself prepared (S4 L188-196, 239-243).

Differences in levels of education among the study group did not seem to influence meanings they ascribed to stressful prenatal experiences associated with becoming and being a parent. A 36-year old stay at home mother of two with advanced college degrees of her own said, "well, [during my] first pregnancy I felt stressed because I did not know what I needed to be – what I needed to have to be prepared as a mother" (S6 L94-96). Her elaboration of the sources of prenatal stress she and many of the other mothers experienced is found in the excerpt below. In it, she reveals just how overwhelming impending parenthood is for these mothers. She said:

You look at the parenting magazines and there's a list about a yard long of things you have to buy or have or be ready for. Classes you should take, you need to take CPR and you need to take, you know, first aid. So with thinking of how to put it all together and how to have it done before baby arrived, which by the way I didn't have her name picked out, you know? It was just a lot of things to have on a checklist, and I didn't know how to check them off. What was the most important, what was really necessary (S6 L106-119).

In the context of identifying prenatal stress, its symptoms and its sources, participants described their concerns about the effects of prenatal stress. Situated structure statements that emerged from analysis of the narratives revealed participants' concerns for themselves and their unborn babies, with emphasis on how stress could adversely affect the child. While the women described their physical and emotional symptoms of stress during pregnancy, they consistently interpreted their stress as being harmful to the baby and as something they needed to control. As revealed in the following section, Effects of Prenatal Stress, participants readily recognized that while prenatal stress was situational (during the pregnancy), it could have lasting effects for the child. Using their experiences with and knowledge about stress and knowing they needed to be healthy in order to promote health for the baby, participants described two primary structures regarding the effects of stress. In the following section, the effects of stress are discussed as situated structures that the women revealed as both real and anticipated.

Effects of Prenatal Stress

Stress Makes You a Different Person

According to the women in the study group, prenatal stress made them act and feel like someone other than themselves. During their descriptions of experiences with symptoms and sources of prenatal stress, they also described links they believed existed between feeling stressed and behaving in ways not typical for them. It is interesting to note that the women did not discuss the state of being pregnant as a reason for acting differently. Instead, they linked stress and behaviors directly without using excuses such as hormonal changes. For a young mother of twins, the link between feeling stress and acting differently is clear. She said, “basically, when I get stressed, I don’t feel like myself, like I’m just in la-la land or something” (S9 L76-78). She went on to reveal more about how her experiences with stress make her feel different. She explained:

I don’t feel like myself at all. It’s kind of hard to explain. It’s like I’m in a different world, like everything around me doesn’t exist. Not that I’m saying my boys don’t exist, but it’s just like I don’t feel like myself. I just feel like a totally different person (S 9 L97-102).

In similar expressive language, a 30 year-old mother of two suggested that prenatal stress frustrated and distracted her. She said, “I raise my voice more than I should. I usually can’t focus on what I need to focus on. I just get to that point, I’m just wanting to pull my hair out” (S10 L120-123).

The oldest member of the study group who had her first child late in life explained how she thought prenatal stress influenced whom and how she acted and behaved. Also seen in other participants’ interpretations of relationships between prenatal stress and how they behaved at any given time, the changes this mother experienced were attributed to stress and not to the dynamics of the pregnancy. Like the other mothers, she also described how being under stress made her ‘different.’ In touch with her feeling states and her interpretations of what was normal for her, she explained:

I know that stress is coming on when I start to be short with other people, or little things will just irritate me, whereas, if I were not stressed, it just rolls right off.

I'm unable—I think I'm a little less compassionate when I'm stressed out (S8 L176-181).

Despite the meaningful causes of prenatal stress that were described by the study group and discussed earlier in this chapter, all participants viewed stressful experiences as threats to the health and well being of their unborn babies and interpreted prenatal stress as something that needed to be recognized, mediated, released, and minimized.

Passing Stress to Your Baby Is Not Good

The meaningful interpretation of stress as something harmful to the baby gave mothers a situated context within which to examine their own behaviors, actions, and degrees of abilities to control sources, symptoms, and effects of prenatal stress. One of the older mothers said, when she described her fears about passing her physical stress on to her baby, “I could feel my stomach get really hard, and I felt maybe that’s my baby getting stressed too, and I said, “Oh no, I’m stressing my baby out. Controlling stress is very, very healthy for the mama and the baby” (S5 L664-669). Continuing with similar instances of data to support the situated context created by participants who linked prenatal stress with the potential for harm to the unborn baby, the 27 year-old mother of one with a college degree, a husband, and a full time job said:

When I was pregnant and I would get stressed, I would get really scared, because I was just thinking—it wasn’t just me that I had to take care. I had to take of my baby. When I got stressed, I didn’t want to do anything to hurt him. I still had the same symptoms like I get a headache, a bellyache, or whatever. Emotionally, I tried not to get so depressed or sad, because I know that affected him—what I did affects him. When I was pregnant, I tried a little bit not to be as stressed, but it still happened (S7 L39-49).

All participants stated that the potential to pass stress to their unborn baby was not good. An older mother with two children and a career recommended keeping this connection in mind and controlling some of the stress by saying ‘no’ to others. She advised that lowering stress levels can be useful in clearing your head and enabling clear thought:

I think a lot of times, just being able to say, “no” helps. I mean ... for myself, that’s going to make all the difference because a lot of women, they have so many roles that you’re always responsible for something. And if you can’t take a minute for yourself, then you can’t be there for other people because you’re not thinking on the right level (S2 L369-376).

A college educated 30 year-old mother of two who now works full time described the good effects that controlling stress had for her as well as the baby. She found value in trying to do things differently, including reducing expectations she had for herself. She said:

It’s much more important to handle your stress during pregnancy. There’s too much at stake actually, to be putting anything on the baby. No stress goes on the baby. It is a good idea to try to find ways to control your stress. It’s much better on you too. I’ve been a much happier and more pleasant person since I’ve started learning to not take things so seriously—you know—doing things differently (S10 L383-391).

Not surprisingly, once the mothers in the study took the strong position of undoubtedly linking prenatal stress with poor outcomes for the baby, they went about describing what options they and others might exercise to reduce stress. While there were few mothers at this stage of the study who were asked to specifically describe the meanings and uses of MBE, the technique did come up. For the most part, the stories of the study group at this point were focused on interpreting what they did to manage prenatal stress prior to practicing MBE. Findings describing related situated structures are discussed in the next section.

What to Do for Prenatal Stress

Situated interpretations of relationships between stress and health were instrumental in directing efforts the participants made to reduce recognized levels of stress, even when sources of the stress could not be removed or minimized. Doing something to relieve prenatal stress was a strong, meaningful need expressed among study group members, primarily because they interpreted stress as a threat to the well-being of their unborn children. This cause and effect hypothesis was a primary motivator

for the construction and implementation of stress-reducing strategies among the women, including the use of MBE.

Dominant strategies participants described using when they recognized they felt stressed are actions such as: “rest and relax,” “seek support from others,” and “walk and exercise.” Some examples of *what to do for prenatal stress* are found in the following situated structures and instances of data.

Rest and Relax

One of the older members of the study group with two children and a professional career said, “If I can just relax. . . or just shut the door and have some quiet time, it’s like I can get rid of that physical tension and also make my mind relax” (S2 L125-126). She elaborated:

So, if I’m pregnant and I’m just getting really stressed out and I can’t handle things, then I’ll just go off by myself, put my feet up and close my eyes and just breathe deep and just kind of clear my head for a bit (S2 L188-192).

A much younger single mother with a high school education and one child talked about how “tuning out the bad stuff” (S4 L55-56) kept her from being stressed out, while the oldest member of the sample with graduate degrees also described kicking back and tuning out. She described her rest and relax strategies in the following ways:

I would definitely lie down and take a nap in the afternoon, or make sure to lie down and put my feet out, just stretch out on the sofa at the end of the day, and literally prop up my feet (S8 L273-276).

Being with and enjoying her other children were the primary ways an older, married mother of two lowered her levels of prenatal stress. She said:

I usually try to find a way to detox, I guess. I go outside with the kids and usually forget about it for a while; forget the house is a wreck, go out and play in the dirt with the kids and just sit there and enjoy the day (S6 L147-153).

While the study group described many ways they individually coped with elevated levels of stress, none was in favor of shutting others out. Even though many found it beneficial to be alone for short periods of time to relax and refocus, most all

participants believed that reaching out and talking with others helped them lower their stress. Some of the dominant interpretations of seeking support from others are revealed in the following section.

Seek Support from Others

Reaching out, talking things out, and asking for help were primary strategies the women in the study group used to lower their levels of stress. The following instances of data illustrate the descriptions of such activities. For some, using MBE was important. For others, using tried and true practices they learned earlier in life were dominant strategies. A young single mother of twins advised others to use several different options to meet their needs for support. She said:

Try to get help from a support group, family, whoever you have around you that you know that will be there to help support you. And afterwards, if you still—I mean family is very good and listening to CDs, like I listened to in the [prenatal support group]. And having other people from a support group that can relate to what you may be going through during your pregnancy and after, it would help (S9 L422-430).

After offering advice to others, she described in detail what works for her, including some of the management strategies taught during MBE lessons:

I talk to my mom and my sister a lot about what's bothering me and what's stressing me out. If I don't use the tape. Other than that, though, those are the 2 main things that I do. I don't, like, stuff my face and eat a lot. I don't have an appetite when I'm stressed, so. . . (S9 L311-316).

Asking those around her to give her a break was one important strategy used by a young mother. She said, "I'll just tell them, "Look, Mom's got a headache. I need a break. Y'all give me 15 minutes." That's what I'll tell them. I'll tell my husband, "J____, just please give me 15 minutes" (S4 L120-124).

Confiding in and relying upon a spouse, significant other, or other family member or friend were strong threads amongst the study group's strategies for managing stress. As recounted by a 36 year-old stay at home mother of two:

When my husband comes home, sometimes I unload to him and say, "I just—I need your help. Can you please clean this kitchen for me because it's just—right now I'm just feeling like there's too much. I don't even want to look at the kitchen; can you please help me?" Other times I might go and visit a friend, just to have a change of environment, just get away, get away from the humdrum and the routine or just do something totally different that's fun, with the kids usually (S6 L153-160).

Getting out and doing things were other ways members of the study group managed stress. Walking and exercising are discussed below as two of those strategies.

Walk and Exercise

Stress relief for an older mother of four amounted to, "taking a walk, and maybe put some headphones on and walk for about 30, 40 minutes a day - [makes a difference when] you're really stressed. Do some exercises. Clean the house" (S5 L699-702).

Corroborating the significance of exercising for stress management, a working mother of one pointed out that, "It doesn't have to be something big, a 5-minute walk even, or just stretching. That can make such a difference to how you feel those 9 months" (S8 L677-684).

Walking also seemed to be the best stress-reducing exercise for a 36 year-old mother of two. She said:

When I would feel stressed, I would go out and take a walk. Sometimes a long walk, sometimes even a walk uphill just to put energy, I guess, into something that would be beneficial and also to burn off some of that emotion. So I did exercise quite a bit. Just get out in the fresh air and open sky and exercise, that's very helpful for me (S6 L276-285).

Descriptions of what to do about prenatal stress were somewhat limited in the narratives until participants were asked to discuss their experiences with mind-body exercise (MBE). At this point in the report of findings for this study, the discussion of situated structures, meanings and interpretations of prenatal stress is complete and the next section begins the presentation of findings that are situated structures, meanings and interpretations of MBE with supportive instances of data taken from the narratives of the study group.

MEANINGS AND INTERPRETATIONS OF MIND-BODY EXERCISE (MBE)

Given that the preceding sections of this chapter have reported the study group's situated structure statements describing their experiences with prenatal stress, the sources and effects of prenatal stress, and ways in which they try to manage prenatal stress, the following section of this chapter will report the study group's situated structure statements for MBE. Included are participants' experiences with the *usefulness of MBE during pregnancy, knowing when MBE does and does not work, and significance of post-partum MBE use.*

Usefulness of Mind-Body Exercise (MBE) During Pregnancy

Findings of this study reveal that MBE represented unique and specific uses and limitations for the relief of stress among the study group. That is, for most of the participants, MBE was context-bound in the sense that they used what they learned about MBE almost exclusively during pregnancy. After the delivery of the baby they were pregnant with during their support group MBE training sessions, few admitted using any of the techniques they found useful and effective during pregnancy. Two primary interpretations of MBE's usefulness were revealed in the narratives as a *way to break the vicious cycle of stress* and *tools to get to a better place*. Each will be discussed in the following sections.

Way to Break the Vicious Cycle of Stress

Many of the participants admitted that without the support of the group they were in when they learned MBE, they felt awkward about practicing the techniques they learned. Those that did use MBE often found that it met their needs to lower their levels of stress and effectively reduce their chances of passing harmful stress along to their babies. The importance of this remained consistent throughout this study and is found in every context where prenatal stress is discussed.

Encouraged by her husband to use what she learned about MBE, a stay at home 36 year-old mother of two described how important the regular use of MBE was to her

ability to control prenatal stress that seemed to escalate. She said:

I do a lot more of the progressive relaxation now than I used to because I had to do something, especially with the second pregnancy and delivery. I really needed to kind of get it together in that regard because of my experiences with anxiety the first time. My husband and I talked more about it and he suggested that I do this regularly, the progressive relaxation, to get really good at it to—you know, the more you do it the better, the more effective it is (S6 L179-180, 188-191).

A change in the way this 30 year old mother of two handled her stress involved practicing MBE more frequently and getting to a place where she could use the techniques more automatically rather than having to stop and think about them all the time. She described how her progress with using MBE reduced the stress she used to experience over and over again. She said:

I would say that it used to be hard for me to handle [stress], I think. I think actually just the past few weeks I started to learn how to [use MBE] a little better. Shows with my actions especially. I used to have big outbursts, and I really let stress get to me. Now I'm starting to learn to kind of take it easy with MBE (S10 L10-16).

All of the study group members were concerned about controlling stress conveniently and effectively. MBE was described as something new and easy to use in almost any setting and for a short period of time; however, participants expressed that they still used techniques for stress reduction that they had learned earlier in their lives. Some of those previously mentioned in these findings are walking, exercising, support from others, and relaxing. For some of the participants, taking just specific parts they needed from MBE was all they wanted to do. Listening to the CD and body scan were the most popular. MBE used by the participants as “tools to get to a better place” will be discussed in the next section.

Tools to Get to a Better Place

How and what parts of MBE were found to be most used and effective among members of the study group was somewhat varied. However, every participant who described her use of MBE also interpreted MBE as an effective tool that often slipped their minds when they needed a stress-mediating intervention. In some cases, husbands

were described as reminding their wives to use what they had learned. In one case, the husband actually practiced MBE with his wife. For those who were focused on keeping MBE in their repertoire of stress-reducing tools, meanings of what the techniques could do for their levels of stress were remarkable. A single mother of one said MBE, “took me to another place. It took me away from whatever I was feeling or whatever was going on, because when I closed my eyes and just breathe, I feel like I’m in a totally different place” (S4 L256-260).

One of the mothers who had graduate degrees and two children tried to normalize and legitimize MBE as a means to deal with prenatal stress. While interpretations of what MBE could do were important to this woman and many others in the study group, some had difficulty justifying their use of this new tool if it was not widely accepted by larger society. She explained, “I mean, I heard it like trying to do the whole thing. I don’t even know what you would call it. Maybe meditation. I didn’t really see this as meditation really for me, I guess, but it did help” (S10 L 186-194).

Using MBE to prevent a panic attack was an awakening for the oldest and most highly educated participant in the study group. She remarked:

I do think that having the mind-body exercises really helped because [my stress] never went to a panic attack. I was able to “Whew.” I think just knowing that I had those tools is what really kept me from even going in that direction (S8 L758-771).

The last thread of MBE usefulness found in the data revealed its ability to ward off stress more quickly than the previously and often used techniques many of the women had described. Expressed as a tool that improves with use, the 36 year-old married mother of two said that MBE was, “a calming experience” that allowed her to “stay calm”. She also said the more she practiced MBE, the quicker she saw results and the longer these results lasted (S6 L213-217).

How the women in the study group determined if and when MBE worked to reduce their stress is discussed in the next section.

Knowing When MBE Does and Does Not Work

Feel More Like Myself; Relaxed

Despite the fact that some members of the study group expressed reservations about openly engaging in MBE without the support of the other women in the prenatal group, those who did use it for stress management modified the MBE strategies to meet their needs or practiced them in private. One participant revealed that her husband listened to the tapes with her and another said her husband encouraged her to go to a quiet place and relax.

The 27 year-old single mother of twins described how she knew that MBE worked for her. She stated:

[Mind-Body exercises help me] feel more like myself. Back to normal again. Energetic. Just being me, being myself and being the person that I know that I am and like I said, it helps me a lot. It relaxed me quite a bit. I know that it was real hard for me at first to, like I said, stop and make myself shut everything out, but whenever I could, it really helped me (S9 L377-385).

Another mother of two with a full time job explained how MBE worked for her in terms that were linked to some of the physical symptoms many of the participants described experiencing when they were under stress. For this woman, MBE helped her, “breathe easier, more evenly”. She went on to say, “I know my heart rate has always run real high whenever I get stress—my pulse goes way up. When I do the deep breathing, the heart rate definitely comes down. That’s, of course, the only way I’m going to relax” (S10 L291-300). The 36 year-old mother of four made more references to the physical symptoms of stress and how MBE mediated those to the point of relaxation. She remarked:

Mind-body exercises you get to relax your whole body and just listen and do your exercises that they ask you to do, and it’s wonderful. I mean, it’s wonderful, because you do feel a lot of that tension come down, and do feel that the only thing you’re thinking about is trying to relax, and getting all of these problems out of the way. It’s wonderful (S5 L529-535).

It is also important to report that participants who described their stress management strategies in the context of using what had worked for them over many years

as well as MBE techniques were not inclined to give up any past activities in favor of the exclusive use of MBE. Perhaps this notion was best expressed by the oldest member of the group with the highest level of education, a husband, and a full time job:

I don't know if the combination worked for anybody else, and I've really worked on finding ways to help me deal with stress. It takes—the different things I have—I think because I have a big toolbox, essentially, of different things I can turn to, whether it's social support, my husband, my parents, and less-so friends.

In addition to describing their experiences with MBE as a mediator of the physical manifestations of stress and as a facilitator of relaxation, many participants revealed that MBE helped them clear their heads and control their emotions. In the following section, instances of data that support the structure statement “mind is where it should be” are presented.

Mind Is Where it Should Be

The participants who experienced emotional as well as physical manifestations of stress during their pregnancies discussed how their use of MBE for stress relief helped them think clearly, focus on what they needed to tend to at the time, and feel less overwhelmed. MBE, as having an emotional and cognitive benefit, is explained in the words of a 31 year-old stay at home mother of one. She said:

I tend to get a little anxious when I'm stressed and find myself not being able to think as clearly, have to make more notes to myself and write things down. I guess I need to just refocus myself and try to come back to reality and calm down because being stressed doesn't really help anything (S1 L20-24, 52-54).

She went on to explain that her MBE tools helped her, “clear my mind and refocus and relax. I just enjoy being able to clear my head—I guess that's why that—I think that that [MBE] helps me.”

The cognitive clarity that MBE helped participants regain was described by a young married mother of one with a full time job outside of the home. She discussed MBE's benefits in the context of her job. She explained:

I have to come back and focus on what's important, and [MBE] helps me prioritize and decide—you know—this project A is not as important as project B, so I need to finish project B and then I can move on to A (S7 L148-152).

While most participants found that using MBE during pregnancy helped them feel less stressed, many admitted that they did not carry over MBE as a stress-mediating technique in post-partum life. The following section, *significance of post-partum MBE use*, is where the situated structures revealing if, how, and when the women in the study used MBE after the birth of their babies are presented.

Significance of Post-Partum MBE Use

The women's stories of their experiences using MBE after their pregnancies varied across the study group. While the situated structure statements reported thus far as findings from this study reveal a fairly narrow range of meanings for symptoms, sources, and the effects of prenatal stress, participants' interpretations of how and why they did or did not use MBE after delivery varied widely. Most of the participants admitted that they did not use MBE as a post-partum stress reduction technique. The few who did admit to using MBE post-partum (listening to the CD or doing body scan) did not provide thick and rich descriptions of their experiences. It was as if they were hesitant to acknowledge MBE outside of the contexts of pregnancy and prenatal stress.

The meanings participants ascribed to post-partum MBE and their interpretations of differences between their uses of MBE before and after pregnancy are represented by the situated structure statements below and supported by instances of data found in the transcripts.

Don't Use It Now that Baby Is Not Inside of Me

Meanings of MBE found across the study group support the interpretation that its significance was as a tool to mediate prenatal stress to protect the unborn baby from harm. This dominant cognitive structure may be one of the most valid reasons why the post-partum women in the study group did not consistently select MBE as a tool to help them feel less stressed after the baby was born. A married mother of two explained, "I

tried to [use MBE after pregnancy], but they did not work as well—maybe because I didn't have my baby to focus on, I think. I always went in to focus with the baby, and then she's not there anymore" (S10 L219-225, 332-336).

A very busy mother of four children reported:

It felt good when I used [MBE], and I didn't think about using them after I had my baby. I guess, because you have your baby and you have all these things you have to worry about, but I didn't think about that. You know how you forget about certain stuff, and then, "Why didn't I do that before? or "Why didn't I continue doing it? (S5 L572-576, 588-590).

Throughout the narratives that describe when and how participants used MBE after the birth of the baby, noticeably absent were mothers' references to the importance of reducing stress for their own health. Even though several participants discussed how much less important it was for them to deal with stress once the baby was no longer *in utero*, two participants did acknowledge that even after birth, children are keenly aware of their mother's anxiety and should not be exposed to it. Those participants are quoted in the following section, 'use them [MBE] when I feel stressed.'

Use Them When I Feel Stressed

For most women in the study group, stress was something that needed to be fixed or relieved during pregnancy and tolerated or 'plowed through' when not pregnant. However, two of the women used MBE post-partum, when feeling stressed, but in both cases they described their experiences as including reminders to themselves that they had this tool available to them. Post-partum MBE experiences were revealed as not always being automatic responses to stress. Instead, mothers who used it consciously chose it and established a time and place to practice one or more of the preferred strategies.

A single mother of one child talked about how she has to think as though she is pregnant when she is not, simply to get her post-partum self into the MBE mode for stress control. She said:

I try to put myself back in a mode, maybe, or like when I was pregnant, the things that I did, to keep my baby from being stressed out. It worked then, so I'm thinking it will work now. I just kind of try to take it easy and try to not put so

much on myself, because I got a lot going on in my life. I try to sometimes keep myself in that same mode as if I was pregnant, the counting, and the trying not to work so hard and think about bad stuff that is going on (S4 L165-174).

The 27 year-old married, full time employed mother of one described how finding time to perform MBE was challenging with a newborn in the house. She revealed when and how she practiced post-partum MBE, usually at the end of a very long day when she was exhausted. In her explanation of her post-partum experiences with MBE, she clearly stated that she used them selectively and only for the first few months of her daughter's life. She explained:

[I used MBE] my first couple of months of being home with a newborn. It really helped, because especially like month 1 and 2, when you don't really know what you're doing, and you're up every 2 hours feeding. You're nursing and it's not working right. Your breast feeding is not working right, and you have all that stress level. When the baby was finally asleep, and no matter what hour it was, "She's finally asleep," to sit back and to listen to the CD. . . (S7 L329-338).

It is interesting to note that throughout the narratives, the word 'focus' was used consistently in participants' descriptions of what they had lost in the chaos of stress and what they needed to regain in order to get to a better place. This was an important revelation in the narratives of most study group members when they discussed the significance of MBE. The group's intentions about how necessary it was to focus during MBE were so vivid in their descriptions that the situated structure statement, 'use techniques to re-focus,' emerged from multiple instances of data. They are discussed below.

Use Techniques to Re-Focus

A young, married working mother described what she would tell other post-partum women about the importance of using MBE to re-focus away from stress. She said, "I'd definitely tell them to step back and re-focus, and really think about it. Is it worth stressing about?" (S7 L418-420). A married 31 year-old stay-at-home mother of one also talked about why refocusing is necessary and how she uses MBE as a post-partum tool. She said:

I guess I need to just refocus myself and try to come back to reality and calm down because being stressed doesn't really help anything. I guess now I don't listen to the tapes, but just having the background of knowing that information makes it easier to be able to refocus yourself. So you can go back and actually use the information without listening to the tapes (S1 L78-80, 158-162).

It was apparent that MBE was not a dominant post-partum stress-relieving strategy for the women in the study group. Those who used it actively recalled having the tool available to them and wondered why they did not use it more often. These questions are explored along with the discussion of all findings in Chapter 5.

At this time, the report of Part I findings for of this study is concluded. During the Part I report, both research questions were answered by the presentation and discussion of *situated structure statements* that emerged from the study group's variable descriptions of experiences with prenatal stress and MBE. The remainder of this chapter presents findings organized as Part II answers to the study's research questions. Findings that follow are higher-level abstractions and synthesized unifications of the study group's common and invariable interpretations of experiences with prenatal stress and MBE. Part II findings are in the forms of *general structure statements* presented with supporting data from the narratives.

PART II: GENERAL STRUCTURE STATEMENTS AS FINDINGS FOR RESEARCH QUESTIONS 1 AND 2

Research Question 1: What are the lived experiences of prenatal stress among post-partum women who learned and practiced mind-body exercises as a stress-reducing technique during their pregnancies?

Research Question 2: How do post-partum women with previous mind-body exercise training describe their lived experiences using this stress-reducing technique during and after their pregnancies?

The work of inducing synthesis statements that meets Giorgi's (1985) criteria for *general structure statements* resulted in the findings discussed below. According to

Giorgi, general structure statements are the products of inductive logic whereby the synthesis of situated meanings revealed by a study group's members are collapsed to form only one general statement that reflects the collective study group's overwhelmingly invariable lived experiences with the phenomena. To perform this work, the researcher searched for essences and maintained a focus on intentionality as she studied the situated structure statements and returned to the raw narrative data to verify and support the higher order conclusions being made. That is, narrative data taken directly from the transcripts continued to provide support for the inductive decisions the investigator made at this and every other phase of this study's data analysis procedures and outcomes.

General structure statements that emerged from this study are inducted synthesis statements that describe and explain the study group's common and invariable understandings and interpretations of their lived experiences with prenatal stress and MBE. That is, as inducted synthesis statements, general structure statements for prenatal stress and MBE, displayed in Table 4.3 and discussed in the text, reveal the study group's universal, trans-situational understanding of each phenomenon (Giorgi, 1985; Von Eckartsberg, 1998).

Guided by Giorgi's (1985) directions, the general structure statements in this study were developed using inductive logic and collapsing common meanings and descriptions in efforts to answer two very important questions: (1) What are the essential structures of prenatal stress and MBE?; and 2) How do the participants' experiences with them take place? (Giorgi, 1985). In the sections that follow, essential structures will be discussed and excerpts from narratives will illustrate participants' experiences with prenatal stress and MBE.

As Giorgi promised in his teachings, essential structures of phenomena evolve over time, and experience can be captured in the reflections of those who have interacted with the phenomena in situations that stimulated the development and testing of real and hypothetical responses to common conditions. While some of Giorgi's perspectives may sound like they belong in quantitative studies rather than in phenomenology, it is the

making sense part of lived experiences that is vital to understanding how the lived experience is interpreted and given meaning.

In order to synthesize situated structures and arrive at universal structures that contribute to the emergence of each phenomenon's general essential meaning, the researcher collapsed similarly situated structure statements that represented the participants' conscious awareness of how they experienced the phenomena (context and relationship), their explanations of what happened to them as they experienced the phenomena (transformation), and the judgments or conclusions they made about the appropriateness and usefulness of the phenomena in their lives (interpretation). Table 4.3 displays the general structure statements that emerged in this study for the four phases of meaning that Giorgi addresses. A study of this table and a reading of the accompanying text will make the evolution of general essential meanings transparent.

The General Essential Structure and Meaning of Prenatal Stress

The post-partum women in this study readily shared their lived experiences of prenatal stress with the investigator. They were enthusiastic about telling their stories and articulated their reflections with sincerity. As the participants described their lived experiences, they went back through time and fluently revealed things they felt, knew, shared, kept close, and wanted others to hear. A few of the participants became teary-eyed, choked-up, and at times laughed nervously. Giorgi (1989) talks about how some participants react to re-living the emotional dimensions of their experiences as they tell their stories. He explains this dynamic in the follow way:

Feelings that awaken perceptual acts . . . reverberate back to the present, and subjects re-experience in the present the feelings that are being evoked in the memory. It is as though the body is the silent carrier of these meanings through feelings, and I am struck by how often this appears in memorial descriptions (p. 108).

Table 4.3 General Structure Statements and General Essential Meanings of Prenatal Stress and Mind-Body Exercise (MBE)

Prenatal Stress			
Conscious Awareness	Existential Transformation	Interpretive Experiences	General Essential Meaning
Prenatal stress results from the pregnant woman's realization that she is primarily responsible for the health of her baby and has concerns about readiness for parenthood.	Prenatal stress produces physical and emotional changes in pregnant women that signal the need for rest and relaxation that effectively prevent the mother's stress from passing to the unborn baby.	Stress relief is paramount for women during pregnancy but is not sought by women or condoned by their social network when they are not pregnant.	The special state of pregnancy gives mothers the limited right to ask for help and practice stress-relieving activities that they deprive themselves of after the pregnancy.
Mind-Body Exercise (MBE)			
Conscious Awareness	Existential Transformation	Interpretive Experiences	General Essential Meaning
MBE is a new way to mediate stress during pregnancy that differs from previously known and practiced stress management strategies.	Being invited to join this exclusive prenatal support group where MBE was taught and practiced fostered feelings of being safe, special and deserving.	MBE was a useful tool to protect the unborn baby from stress, but post-partum, mother's stress is not considered important (no support group, no time to engage in MBE).	Learning and practicing MBE in the context of a support group for pregnant women limits its significance and use as a post-partum stress-mediating strategy.

The essential structure of prenatal stress was revealed in this study by the emergence and explanation of participants' conscious awareness of prenatal stress, existential transformations of their experiences with prenatal stress, their past and present interpretive experiences, and finally, the general essential meaning of prenatal stress. All will be discussed in this section.

Conscious Awareness of Prenatal Stress

The participants' conscious awareness of prenatal stress as a threat to their babies revealed itself as a predominant psychological interpretation of responsibility for another human being. Throughout early data analysis and continuing through the emergence of situated structure statements, it was obvious that the mothers did not concern themselves with their own health status, but paid attention to their physical and emotional symptoms of prenatal stress.

During synthesis and induction operations, situated structure statements were collapsed to form one statement that reflects participants' conscious awareness of prenatal stress. The general structure statement that emerged is, *prenatal stress results from the pregnant woman's realization that she is primarily responsible for the health of her baby and has concerns about readiness for parenthood.*

No other thoughts, feelings, or concerns expressed in the situated structures about prenatal stress had the same level of intention. While participants spoke about how stress in the workplace and at home were constants, they emphasized that prenatal stress was additive and linked to concerns about their exclusive responsibility for the health of the baby and parenting capabilities. Examples of participants' *conscious awareness of prenatal stress* have been excerpted from the transcripts and presented throughout this discussion to keep readers focused on the significance of using participants' own words even at higher levels of conceptual abstraction.

In some cases, narratives selected to support general statements and meanings are repetitive of those presented to support the emergence of situated structure statements discussed in detail earlier in this chapter. However, they are necessary to revisit so that there is no temptation for readers and researchers to violate the lifeworlds of the participants by inserting words that are not authentic. The following excerpt was chosen in this case because this participant's expression of her experiences captures all those that were held in common by the study group as a whole. She said, "I think the scariest thing I've ever had in my life, is knowing that everything I did was benefiting or hurting my

child. That's the first time you realize how responsible you are for another human being" (S7 L88-95).

Existential Transformation of Prenatal Stress

The general structure statement that emerged from the synthesis of situated structure statements captures the study group's statements of relationships they perceived existed between the symptoms of prenatal stress they recognized and experienced, what they believed they needed to do in response to the stress, and whether what they did made a difference to the baby. The general structure statement that emerged to express the study group's universal explanation of what happened to them as they experienced the phenomena is, *pregnata stress produces physical and emotional changes in pregnant women that signal the need for rest and relaxation that effectively prevent the mother's stress from passing to the unborn baby.*

As seen in this report, existential transformation occurs when the conscious awareness of a phenomenon is woven into a theoretical perspective that begins to explain interactions with other phenomena, outcomes of responses to the interactions among and between phenomena, and evaluations of the effectiveness of phenomena manipulation. Whereas conscious awareness is at the level of description, we see that existential transformation is the beginning of explanation, even if the universal structures suggest that links created between phenomena are based on previously known information.

The general structure of the existential transformation of prenatal stress is exemplified in the following excerpt in which a mother explains what she believes to be the interactional relationship between her stress and that of her baby. She infers that if she reduces her stress, the baby will too.

I think that [the baby] is probably feeling about the same way I am. That's the way I've always learned it anyway, that they pretty much feel the way you feel, so I try—that's why I say, I try to always keep the baby in my mind when I was getting stressed, or if I was getting any kind of emotion. I'm thinking that she's feeling the same way, so... (S 10 L125-132)

Interpretive Experiences with Prenatal Stress

The general structures of interpretive experiences identified in this study were the judgments and conclusions the participants made about the role the phenomenon had in their lives and the nature and appropriateness of the relationships they had with the phenomenon. For example, situated structure statements were synthesized to find that only when pregnant and experiencing prenatal stress did the women feel they could engage in healthy behaviors such as doing MBE to relieve stress. The general structure of this study's universal interpretive experience with prenatal stress is that *stress relief is paramount for women during pregnancy but is not sought by women or condoned by their social network when they are not pregnant*. This statement emerged from the synthesis of situated structure statements that repeatedly acknowledged how little attention women in the study devote to managing their stress when not pregnant. This discovery was the most powerful impetus for the emergence of the general essential meaning of prenatal stress. An example of how the women in the study group overwhelmingly felt about controlling stress after the baby was born is found in the following excerpt. One participant said, "it's much more important to handle your stress during pregnancy. There's too much at stake to not worth it, actually, to be putting anything on the baby" (S10 L383-386).

General Essential Meaning of Prenatal Stress

The general essential meaning of prenatal stress for this study group emerged to impart *the special state of pregnancy gives mothers the limited right to ask for help and practice stress-relieving activities that they deprive themselves of after the pregnancy*. While this statement imparts the general essential meaning that prenatal stress had for the study group, it delivers a strong warning to providers of care and women of childbearing ages to be attentive to stress whether pregnant or not, and to practice healthy lifestyles that include stress relief.

This concludes the findings for the general structure statements and the general essential meanings for prenatal stress. In the following section, general structure

statements and the general essential meaning for MBE is presented. Also embedded in the statements and meaning are the ways in which participants experienced MBE.

The General Essential Structure and Meaning of MBE

Conscious Awareness of MBE

The participants' universal conscious awareness of MBE was that it was *a new way to mediate stress during pregnancy that differed from previously known and practiced stress management strategies*. All of the women discussed how they dealt with stress before encountering MBE in the prenatal support group. While having this new tool was appreciated by most, a few women did not attach meaning to MBE and its use. However, for the most part the women saw their experiences with MBE as inseparable from pregnancy and this limited their use of the exercise strategies for stress relief. It was also clear throughout the narratives and in the situated structure statements that for the majority of time when they were not pregnant, women in the study did not regularly engage in stress-relieving activities.

Existential Transformation of MBE

The general structure statement that emerged to express the study group's universal explanation of how they experienced the phenomenon of MBE is articulated in the following way: *being invited to join this exclusive prenatal support group where MBE was taught and practiced fostered feelings of being safe, special, and deserving*. This explanatory statement begins to address the need for more research to discover how interactions with MBE can be supported in all conditions of stress and not just those with a singular context (pregnancy).

Excerpts from narratives support the structures that point to benefits of having MBE to help "get the problems out of the way." One participant expressed the group's universal transformation when she said, "MBE took me to another place. It took me away from whatever I was feeling or whatever was going on" (S4 L256-260). Existential relationships that the participants discussed having with MBE were mostly in the context

of pregnancy, when MBE did the most good for those who used it. Without the support group members, many women found it difficult to continue with MBE as it was taught. Finding time for themselves, away from family and work responsibilities, was difficult post-partum. While the women knew that controlling stress was important, it did not have the same significance post-partum as it did during pregnancy. If it did not make a difference to the unborn child and threats against it, stress relief was not a priority. For most, it was an afterthought and something they did late at night when everyone else was asleep. The narratives support the transformation concept as being associated with post-partum women not feeling as special as they did during pregnancy.

Interpretive Experiences with MBE

The general structures of interpretive experiences with MBE identified in this study were the judgments and conclusions the participants made about the role of MBE in their lives and the type(s) of relationships they thought they could have with it. The emergent general structure statement here is *MBE was a useful tool to protect the unborn baby from stress, but post-partum, mother's stress is not considered important, there is no support group, and there is no time for mothers to engage in MBE.*

One mother's interpretation spoke for the entire group when she described how she squeezed parts of MBE in to her busy day while she remained involved in caring for kids and animals. She said:

Yeah, it's pretty evident that that's helpful. And then sometimes during the day occasionally outside when I'm working with the kids or the horses or something I might just stand there and stretch and take a deep breath and close my eyes and just relax and you know, just a small tidbit of it. It's very helpful just to take that deep breath and regroup (S6 L462-469).

General Essential Meaning of MBE

The general essential meaning of MBE emerged from the synthesis of situated structures and the universal revelations that were discussed as conscious awareness, existential transformation, and interpretive experiences. For this study group, the universal general essential meaning of MBE is *learning and practicing MBE in the*

context of a support group for pregnant women limits its significance and use as a post-partum stress-mediating strategy.

This statement is powerful to the extent that it reveals how important context is when we teach self-care. The participants were fixed on the explanation that MBE was to be used to reduce prenatal stress. Dominant in the narratives were reflections of MBE that showed doubt about using MBE on a regular basis after giving birth. In their own words, participants explained that they “don’t use [MBE] now that the baby is not inside me of me,” and “I don’t think about [MBE] after baby’s birth.” It appears that for these participants, the moment the baby was born, they no longer thought about using MBE.

Learning and using MBE in the context of the prenatal condition led to its irregular and non-conforming use as a stress-mediation strategy after pregnancy. It appears that for this group of women once the baby is born and the pregnancy ended, they did not use MBE because giving birth to the baby changed conditions, contexts and settings. For those participants that did think about MBE post-partum, they either did not use it consistently or used modified versions to fit their personal needs. Alternatives to MBE used by a few participants were such things as distraction, drinking beer or wine, doing puzzles, and getting out in the sunshine.

This concludes the presentation of all findings pertaining to both research questions. Discussion of these findings is found in Chapter 5.

SUMMARY

The findings of this descriptive phenomenological study revealed two general essential meanings that reflected the group’s essential structure of prenatal stress and the essential structure of MBE across the study group. The group expressed the desire to recognize and control prenatal stress to avoid passing its dangerous effects to the unborn baby for whom they were responsible. They also revealed that learning and using MBE in the context of the prenatal condition led to its irregular and non-conforming use as a stress-mediation strategy after pregnancy.

The narrative responses demonstrated that the women in the study group felt a tremendous amount of responsibility for their unborn baby. They verbalized that everything that they ate, drank, and stressed about had a direct impact on the outcome of the baby; thus, they were motivated to learn another option to mediate prenatal stress. Most expressed their prenatal stress in terms of physical symptoms, but also described feeling emotionally overwhelmed as well. Their interpretations of the effects of stress were that stress makes them a completely different person and that passing the stress on to the unborn baby cannot be good. The data from the transcripts also revealed that the women did indeed seek stress mediating actions while pregnant such as the MBE, sitting quietly and relaxing, putting their feet up, and seeking support from family and friends. They used the MBE to help break the cycle of stress and as a tool to get to another place. They all expressed the physical relief of tension when using MBE and that they were more relaxed and happier. However, for this study group, once the baby was born, they either did not think about using MBE after the pregnancy ended and the baby was no longer a physical part of their being, or they used MBE irregularly and in a modified version to suit their needs.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

INTRODUCTION

The findings of this descriptive phenomenological study provide insights into the lived experiences of prenatal stress among post-partum women who learned and practiced mind-body exercises as a stress-reducing technique during and after their pregnancies. While prenatal stress has been strongly associated with negative outcomes of pregnancy such as preterm birth, little progress has been made over the years to successfully intervene to reduce prenatal stress and its undesirable effects. In fact, the preterm birth rate in the United States has increased from 8% in 1980 to more than 12% more recently. As these percentages have increased, it has become ever more important for the health care community to understand the contributing factors, including the role of prenatal stress.

Evident in the literature are numerous quantitative studies of prenatal stress and its relationship to pre-term birth. However, the subjective views and experiences of the women who suffer prenatal stress have not been studied at the same level of concern. The need to hear women's voices regarding their experiences with prenatal stress also alerted this researcher to the significance of learning about which non-traditional stress-reducing strategies pregnant women use, and how they use them. As discussed in Chapter 3 and described in Chapter 4, the sample for this study was recruited from a population of women who learned mind-body exercise (MBE) as a stress-mediating strategy while attending a prenatal support group.

The discussion of the findings of this study illuminates the subjective perspectives of prenatal stress and MBE revealed by the study group in two ways. First, the discussion of *situated structure statements* focuses on dominant meaningful perspectives that several women shared on psychological and cognitive levels that communicate beginning conceptual interpretations of their experiences. Second, the discussion of *general*

structure statements about prenatal stress and MBE focus on the collective insights of the group at a theoretical level, whereby their conclusions about relationships between phenomena in context are revealed.

In the case of this phenomenological study, the theory of stress and coping (Lazarus & Folkman, 1984) and Roy's theory of adaptation (Meleis, 2007) provided interpretive contexts for understanding the situated and general essential meanings of prenatal stress and MBE that the study group described. The significance of adding these findings to nursing's knowledge base about non-invasive strategies pregnant women use to mediate prenatal stress is found in the understandings the study sample revealed about where, when, how, and why they used MBE. The use and testing of these methods in future studies may provide yet another safe intervention that professionals can suggest women use to reduce prenatal stress and diminish undesired birth outcomes.

These findings, along with professional expertise and client supervision, may be used in clinical practice to add to knowledge about reducing prenatal stress and to suggest to the post-partum population that perhaps there are maternal benefits to continuing the practice of MBE when not pregnant. The remainder of this chapter contains a discussion and interpretation of the findings, comparisons of this study's findings with reports of previous related studies, and conclusions and recommendation for future research and practice.

DISCUSSION AND INTERPRETATION OF FINDINGS

Situated Structure Statements: Prenatal Stress

The findings in the form of situated structure statements about prenatal stress are discussed in this section as representative of dominant shared meanings of prenatal stress experiences held by the majority of the study group. Overall, the study group revealed why and in what forms their *Symptoms of Prenatal Stress* (recognized as physical and emotional feeling states) were meaningful. While they described feeling emotionally overwhelmed and not physically well, study group members did not compare their symptoms of stress during pregnancy to those experienced when not pregnant. Perhaps their reflections were limited by the context in which they were asked to discuss, but no

participant engaged in making comparisons between lived experiences of stress during pregnancy with lived experiences of stress during everyday life.

While direct comparisons were not made when *Symptoms of Prenatal Stress* were discussed, it was clear in the dominant situated structures that the study participants used when discussing *Sources of Prenatal Stress* that factors they believed contributed to prenatal stress were present during pregnancy more than any other times in their lives. Sources of prenatal stress revealed by the group included “realizing you are responsible for another human being” and “getting ready to parent.”

Symptoms and sources of stress among pregnant women are indeed found in the extant literature; however, most studies capture and analyze data using quantitative methods. Researchers in a study of coping in normal pregnancy used a sample of pregnant women that were not considered to be high risk. These women were exposed to average levels of psychosocial stress. One of the findings was that emotion-focused coping was negatively related to the number of reported pregnancy complaints and distress experienced (Huizink et al., 2003). The current study also supports this finding. That is, the majority of the study group expressed their *Symptoms of Prenatal Stress* in terms of physical complaints and feeling emotionally overwhelmed.

There is a growing body of research suggesting that maternal prenatal stress during pregnancy carries significant risk factors of adverse birth outcomes. Investigators in a study on psychological and social factors that contribute to perceptions of stress and anxiety during pregnancy looked at a variety of factors. Findings revealed the role played by attitudes toward an event, in the case of this study, whether pregnancy was desired or not, in emotional outcomes (Gurung et al., 2005). The findings of this study support these findings as well. The participants expressed their *sources of stress while pregnant* by revealing feeling emotionally out of control, the pressure of getting ready to parent, and the realization of responsibility for another human being.

The *Effects of Stress* discussed as “stress makes you a different person” and “passing stress to your baby is not good” were the two dominant meanings the study group held about what happens to them and what might happen to the baby if stress is not managed. These two interpretations of how stress affects them and their babies motivated

members of the study group to practice MBE and other forms of stress relief they used in the past at the encouragement of a parent, spouse, or friend.

Relationships between prenatal stress and negative birth outcomes have been studied from a variety of perspectives and upheld for many years (Barker et al., 2002; Dole et al., 2003; Hedegaard et al., 1996; Heron et al., 2004; Lederman, 1996; Lobel et al., 1992; Ruiz & Avant, 2005; Wadhwa et al., 1998). Similar to what the women in this study revealed as reasons to mediate the stress they experienced during pregnancy, most of the quantitative investigations cited above found that the correlation between prenatal stress and negative birth outcomes was a primary motivator for pregnant women to recognize and reduce prenatal stress.

Particular to this study are women's expressions of their reasons behind wanting to mediate their prenatal stress, explained in their own terms as changes wherein they experienced feeling unlike themselves and fears about passing harmful stress to their babies. Based on findings reported by Heron et al. (2004), there may be a need to further examine what meanings pregnant women attach to 'not feeling like myself.' That is, women who experienced both antenatal and post-partum depression described feeling unlike themselves. Exploration of meanings may shed some light on early manifestations of depression, which when diagnosed and treated early can prevent post-partum problems for mothers and their babies.

In a previous study by Field et al. (2004), it was shown that pregnancy massage therapy could reduce depression and its associated elevation of stress hormones and neurotransmitters, resulting in improved birth outcomes. Likewise, the women in this study did indeed practice MBE in the context of pregnancy as a stress-mediating intervention to relieve their stress and minimize its negative effects on their unborn baby. While this study shows that they did not continue MBE practices after pregnancy, it also reveals the women's concerns for their unborn baby and the motivation to use and try new stress reducing tools.

How pregnant women decided what to do about prenatal stress emerged in this study from a combination of participants' recognition of symptoms they experienced, sources they identified, and the effects of stress they determined to be threats to themselves and their unborn babies. In this study, *What to Do for Prenatal Stress* was

found in the structure statements that described the women's interpretations of what things they believed would lower their stress levels. Dominant suggestions indicated that the women thought they needed to "rest and relax," "seek support" for their experiences from others close to them, and perform some activity such as "take a walk and exercise" to release excess energy.

It is interesting to note that even though the women in this study group were trained in MBE and admitted using some of those techniques to mediate their prenatal stress, the first thing that they cited when responding to questions about what they did to relieve stress were descriptions of tried and true modalities that they had used throughout their lives. Lazarus and Folkman (1984) provide a framework for understanding this dynamic and a possible hypothesis to explain why the women rarely used MBE after giving birth. Lazarus and Folkman have suggested that stress results from an imbalance between demands and resources. While the women in the study reported feeling emotionally overwhelmed and out of control when stressed, it is possible that they felt limited in resources that required conscious intention. Instead, they may have found it easier to call upon more familiar and automatic stress-relief patterns that they used more frequently in life and across situations. Having learned MBE in the context of a prenatal support group may have limited their abilities to use the strategies in situations where they viewed their abilities to cope as extremely challenged.

The role of psychosocial support in the relief and outcomes of prenatal stress have been reported in the literature. Some suggest that psychosocial support makes a difference, while others report little to no effect. Hodnett and Fredericks (2003) conducted a systematic review of 16 trials that examined the effects of providing social and emotional support to women at risk for delivering low birth weight babies. The authors found that psychosocial support to at-risk women was not associated with improvements in perinatal outcomes, although there was a reduction in rates of caesarean section. In another trial, pregnant women who received psychosocial support and counseling during pregnancy were more likely to have full term births (Scott et al., 1999a).

The role of mediating factors in the association between social deprivation and low birth weight was examined in a study by Reime (2006). The study examined the

existence of an association between social disparities and low birth weight, and recommended prevention strategies for pregnant women in the community. As was the case in this study, the women shared their experiences of participating in a novel intervention that used a prenatal support group setting to teach the stress-mediating exercises (MBE). Their voices confirmed the benefits of learning and using (MBE) within a support group setting during pregnancy.

In another study by Dennis and Kingston (2008), the effects of telephone-based support as an intervention were examined. Findings revealed that proactive telephone support was not effective in smoking cessation rates in terms of improving preterm birth. However, this study revealed learning MBE stress-reducing strategies within the safety of a support group was beneficial during pregnancy. While the studies are different, it is interesting to note that the personal interactions of a support group offer the opportunity for the comparison of various ways of coping. One participant of this study expressed the reassurance to herself that she was doing a good job of taking care of herself when she compared her situation to the situation of others in the group.

While the scope of this study did not include assessment of the birth outcomes for the women who attended prenatal support groups and learned MBE, the extant literature is mixed on the benefits of psychosocial support as part of prenatal care. However, it should be remembered that the women in this study experienced feelings of being special as a result of their participation in prenatal support groups. Prenatal support groups and outcomes of participation should continue to be studied in relationship to stress recognition and management as well as birth outcomes.

Situated Structure Statements: Mind-Body Exercise (MBE)

The findings in the forms of situated structure statements that revealed meanings of experiences with MBE focused on how participants interpreted the *Usefulness of MBE During Pregnancy, Knowing When MBE Works and Does Not Work, and Significance of Post-Partum MBE*. The *Usefulness of MBE During Pregnancy* captured the real and anticipated ways the participants evaluated their experiences with MBE as an intentioned process and as a skill set. Dominant across the study group were goals to get to a better place, be relaxed, feel more like themselves, and the ability to focus. As mentioned

earlier, many study group members also used and relied upon their tried and true methods of stress management that were not MBE. However, when participants were asked to talk about the ways they found MBE helpful and how they knew this was so, none used language indicating that they arrived at their answers by comparing MBE to any other type of stress management they had engaged in during pregnancy.

A clearer understanding of how MBE was used by the participants came to the forefront when they discussed the meaningful significance of MBE during and after being pregnant. Although most participants admitted using part or all of the MBE strategies they had learned previously in a prenatal support groups setting, the *Significance of Post-partum MBE* as both a process and a tool took on different meanings in the post-partum state. The frequency and style of MBE use diminished once the baby was born, and it seemed as though this study group chose to not use MBE at all or they used it in some modified version to “refocus” when stress was especially distracting. The data in this investigation suggest that, for this study group, MBE was only used within the context in which it was taught and practiced, i.e., pregnancy, and once the baby was born, participants either used MBE in a modified version to suit individual needs or not at all.

Related extant literature regarding MBE will be discussed in the section, *General Structure Statements: Common, Invariable Interpretations of MBE*.

General Structure Statements: Common, Invariable Interpretations of Prenatal Stress

The essential structure of prenatal stress across this study group began with the conscious awareness that prenatal stress resulted from mothers’ realizations that they had the primary responsibility for the health of their unborn babies and that they had doubts about being good mothers. When this conscious awareness proceeded through an existential transformation, the women were able to express what they believed were relationships that helped them make sense out of their personal knowledge, input from their professional providers, and their lived experiences. That is, during existential transformation, women were able to interpret their prenatal stress symptoms as signals that they needed to take action to rest and relax and protect the baby. They interpreted the

sole responsibility for another human being, which added to the pressures at work and home and did indeed increase the levels of stress during pregnancy.

The prenatal support group, which was the context within which the women learned and practiced MBE, may have been perceived by the women as a protective and sanctioning environment, so much so that their interpretive experiences suggested that if the social network outside of the prenatal support groups did not condone the practice of MBE, it would have to be done in private or forfeited in favor of longstanding tried and true stress-reducing methods. Roy's Adaptation Model may be a helpful perspective to use to make sense of the general structure statements regarding prenatal stress. Roy has suggested that each person is an open system and employs unique coping skills to deal with stress. While the women in this study all had the same exposure to MBE and practiced MBE strategies in the support group setting, once the group was no longer functioning, the women were on their own. Despite the fact that the women in the study described MBE as a tool to get to a better place, oftentimes after pregnancy, that tool was put away. Roy (2000) believes that nurses can shape the future of healthcare with their personal and professional commitment. Given the training in MBE, nurses have the ability to teach patients the benefits of stress-mediating strategies in a variety of settings and throughout the lifespan, for lifelong benefits to health.

In some ways, the prenatal support groups made the women feel special and gave them permission to take time out for themselves. This hypothesis was confirmed by the emergence of the general essential meaning of prenatal stress, which was finalized during the highest level of abstraction of lived experiences. The general essential meaning of prenatal stress states that, "the special state of pregnancy gives mothers the limited right to ask for help and practice stress-relieving activities that they deprive themselves of after the pregnancy." The discussion of findings related to MBE reveals similar interpretations and meanings.

In a randomized controlled trial by Bastani et al. (2005), the effect of applied relaxation training on reducing anxiety and perceived stress among pregnant women was investigated. The findings suggest that there were beneficial effects of relaxation on reducing anxiety and perceived stress in pregnant women. While the findings from this study agree that stress-mediating strategies are beneficial when used during pregnancy,

the report also finds that once the prenatal condition no longer exists, the stress-reducing strategies (MBE) were no longer used or used only in a modified application.

Esch et al. (2003) performed a study to investigate the possible connection between the relaxation response in stress-related diseases. Findings suggest the implementation of relaxation response techniques into stress management strategies and medical settings associated with stress-related diseases could play a regular part in professional stress management or mind-body medical settings. This tool could play an important part of healthy life style modifications. The women of this study also shared that the use of MBE was a helpful stress-mediating tool during pregnancy, but it was only used occasionally as a way to re-focus their thoughts.

Future studies may well examine the subjective reasons given by pregnant women for why they choose the stress-relieving strategies they do. However, one hypothesis that emerged from this study to explain the phenomenon of MBE use suggests that when a concept is learned in the context of a particular situation, it may be difficult to transfer the usefulness of the concept to other contexts without help. This is something that will be seen again during the discussion of general structure statements of MBE later in this chapter.

General Structure Statements: Common, Invariable Interpretations of MBE

The essential structure of MBE across this study group began with the conscious awareness that MBE was a new way to mediate stress during pregnancy that differed from previously known and practiced stress management strategies. At this point in the discussion of this study's findings, it seems well-established that the women saw MBE as a nuance, and they desired a setting for practicing MBE that reflected the sanctioning and support once provided by peers in a support group. When this conscious awareness proceeded through an existential transformation, the women were able to express what made them feel so special and deserving of time to themselves for the relief of stress. That is, during existential transformation, the emergent statement that best described the women's experiences with MBE was, "being invited to join this exclusive prenatal support group where MBE was taught and practiced fostered feelings of being safe, special, and deserving."

One such stress relief study includes a randomized control trial that was conducted in subjects with chronic low back pain (Williams et al., 2005). In the study, Iyengar yoga therapy was compared to an educational control group. Findings in the yoga group showed greater benefits from chronic low back pain than in an educational control group. However, the follow-up was only post and at three months. In another study by Saisto et al. (2006), therapeutic group psychoeducation was well accepted in treating fear of childbirth through support group meetings that offered instructions on relaxation and visual imagery. However, there is no further follow-up to determine if the tools of relaxation and visual imagery were used as stress mediating tools in subsequent pregnancies. In the case of this study, the participants used and benefited from MBE as a stress-mediating tool during pregnancy while in the safety and support of the prenatal group. It would be interesting to see if the participants of this study do in fact use MBE as stress-mediating tool with any future pregnancies.

Indicators of how special the women felt when they were part of the prenatal support group that learned and practiced MBE differed from the data when the women reflected upon their post-partum conditions. The general structure statement that captured the study group's interpretive experiences with MBE that flowed from conscious awareness and existential transformation explained this. That statement says, "MBE was a useful tool to protect the unborn baby from stress, but post-partum, mother's stress is not considered important (no support group, no time to engage in MBE)." This statement's impact culminated in the emergence of the general essential meaning of MBE for this study group, which provides a beginning view of caveats professional providers must consider anytime teaching is context-bound. The general essential meaning states, "learning and practicing MBE in the context of a support group for pregnant women limits its significance and use as a post-partum stress-mediating strategy." This statement of meaning explains some of the reasons for MBE's limited use post-partum, but it also reflects and repeats similar meanings found throughout this study as to whether they were discussed by participants in the context of relieving stress for the benefit of the baby or tending to the stress experienced by the mother after birth.

For this study group, the phenomenon of MBE was experienced during pregnancy as a tool to re-focus the mind, feel better, and break the vicious cycle of stress. However,

the significance of MBE dwindled to something that was no longer needed when the threats for harm to the unborn baby were given up by the birth. After pregnancy, few mothers saw the need for any stress relief, even if it could benefit them. Perhaps it was not MBE that was abandoned by the mothers, but instead it was replaced by the better known, more automatic stress-relieving strategies they had understood and used all of their lives. For this study group, it appears that the priorities of the mothers changed after birth, with self-care moving lower on their lists.

Heron et al. (2004) examined depression and anxiety from pregnancy to the postnatal period in a large community sample in England. They found that antenatal anxiety occurs frequently and does increase the chances of postpartum depression. In another study by McGarry et al. (2009), the differences between women who reported postpartum depression symptoms and those who reported symptoms but did not seek help were investigated. It was discovered that less than half of those women sought help who reported postpartum depression. It is well documented that prenatal anxiety predicts postpartum depression, but it is not known whether interventions for anxiety during pregnancy would protect against postpartum depression. While there is limited information on the interactions between stress and the potentially buffering effects of mind-body stress reduction modalities, the women of this study either did not continue to use MBE or only used MBE in a modified version.

Mindfulness-Based Stress Reduction (MBSR), an equivalent of MBE, is a program that was initially developed by Kabat-Zinn (1994) and has been found to be an effective intervention for addressing an array of stress-related and chronic medical conditions in diverse populations (Bishop, 2002; Grossman et al., 2004; Roth & Robbins, 2004). Results of studies in clinical (Astin, 1997; Shapiro et al., 1998; Williams et al., 2001b) and non-clinical populations (Rosenzweig et al., 2003) suggest that participation in MBSR can lessen psychosomatic systems and mood disturbance, increase sense of control, and reduce medical symptoms. As in this study, the participants found that MBE as a tool helped them break the vicious cycle of stress, feel more like themselves, and feel in control. The special feelings they had about being invited to learn MBE in a supportive setting empowered the women to use MBE prenatally to get to a better place.

A finding from a randomized trial conducted by Specia et al. (2000) using MBSR (MBE) with cancer patients suggested that participation in MBSR effectively reduced mood disturbances and stress symptoms in male and female patients for up to six months. There may be value in pursuing the development of support programs for pregnant women that extend beyond the time of giving birth. It is hoped that MBE intervention, offered in the support group settings, will provide lasting positive effects.

IMPLICATIONS OF THE FINDINGS FOR NURSING PRACTICE, EDUCATION AND RESEARCH

The findings of this study have implications for practice. Many of the findings can be translated immediately to patient teachings about stress control and self-care during and after pregnancy. While the relationships between prenatal stress and negative outcomes of pregnancy are not new concepts, this study adds new information that suggests how the ways in which individual mothers interpret and understand their responsibilities for the health and well-being of their unborn baby will influence what they perceive to be symptoms and sources of prenatal stress, as well as preferences for the employment of stress-mediating strategies.

As demonstrated by the changes in ascribed significance of MBE during and after pregnancy, practitioners should carefully attend to the context within which stress control and mediation are taught and practiced. If strategies are taught in situated contexts, it may be difficult or undesirable to transfer those strategies to everyday use. While it was important for these women to learn new options for stress management during pregnancy, a determined effort should be made by practitioners to explain that MBE is a widely used set of tools that can benefit them in everyday life.

Given that this study found that post-partum women are less likely to manage their stress than pregnant women, practitioners should consider developing focused support groups for post-partum women that emphasize the relationships between stress mediation and good psychological and physical health. It may be that controlling and mediating post-partum stress will have major roles in the incidence and treatment of post-partum depression. After all, the women in this study cited worries about readiness to

parent and abilities to be a good parent as sources of prenatal stress. It is doubtful that those worries and concerns disappear immediately upon the birth of the baby.

Practitioners should understand that MBE is usually taught over 8-10 weeks of group meetings. The educational program focuses on the development of mindfulness. Weekly didactic and experiential sessions in MBE most often include the teaching of meditation practices along with instruction and group discussion on the practical applications of mindful awareness. While the participants in this study were part of a MBE prenatal support group that met for five weeks, MBE was learned and practiced effectively. So it seems that shorter periods of learning time can also bring about positive experiences with MBE.

Many quantitative studies provide evidence that MBE are effective ways to help with the stress of dealing with a chronic illness or pain (Field et al., 2003; Heron et al., 2004; Jesse et al., 2003; Lobel et al., 2000; Moutquin, 2003; Paarlberg et al., 1999; Sandman et al., 1999; Zimmer-Gembeck & Helfand, 1996). With this evidence, it is very important that more nursing interventions be developed to include MBE in the care of other categories of patients in addition to pregnant and post-partum who need to learn how to recognize and manage their stress.

It is important that outcomes research be part of the research program that continues to explore prenatal stress and MBE. This study has contributed to the identification and interpretation of various factors that participants suggested were associated with prenatal stress and the significance and practice of MBE. Furthermore, theoretical statements that emerged as general structure statements pertaining to the study group's interpretations and understandings are starting places for the generation and testing of derived hypotheses. Evidence from such studies can direct and refine interventional approaches in the prenatal and post-partum populations. Longitudinal nursing studies, conducted using mixed methodology approaches, can also produce the data needed to evaluate treatment outcomes.

Nursing education curricula should include not only the recognition of prenatal stress and effects to mother and baby, but also creative and holistic interventions. The insights offered by the reflections of the post-partum women in this study will guide health care professionals to address stress issues and improve outcomes. The

implementation of prenatal support groups that teach MBE on an ongoing basis may be one method of intervention that offers the support and alternate methods to recognize stress and deal with it in a constructive manner.

SPECIFIC RECOMMENDATIONS FOR FUTURE RESEARCH

The findings of this study add to our understanding of the use of MBE as a stress mediating tool during and after pregnancy via post-partum women's reflections. Future research is recommended to expand these findings into the well woman setting. While the study group found the prenatal support group a safe place to learn and practice MBE, they no longer practiced MBE as it was taught after the baby was born. Further research that would evaluate the use of MBE before, during, and after pregnancy may shed light on strategies women could perform to incorporate MBE into their daily lives as a stress mediating tool. In addition, longitudinal and controlled studies are also needed to capture data that will assist with the evaluation of outcomes of MBE as a stress mediating tool before, during, and after pregnancy.

CONCLUSIONS

This descriptive phenomenological study illuminated how post-partum women who were taught MBE to mediate stress while attending a prenatal support group described and interpreted the meanings of these experiences. The descriptions of the participants' experiences with MBE were similar to those reported by researchers working with samples of individuals with chronic illnesses. However, the major difference was that after the pregnancy ended and the baby was born, the participants no longer used MBE as a consistent stress-mediating tool. In the case of those with chronic illnesses, once MBE was learned and practiced, patients continue to use them for long periods of time. It appears that health care providers can have a significant impact on the health of women and their children for a lifetime if MBE was taught in a support group setting without a restrictive context, rather in a broader environment such as a well woman setting. It may make a difference in how women respond to stress before pregnancy is ever considered.

While the findings of this study cannot be generalized to groups beyond those like the study group, they still begin to close the gap in knowledge about how, what, and why women choose particular strategies over others to help them manage prenatal stress. It also begins to answer questions about how women view stress while pregnant and in the post-partum condition. Pregnant women's preferences for non-invasive stress-relieving strategies also need further exploration, as do the study group's interpretation that the mother is primarily responsible for the health of her baby.

SUMMARY

The results of this research study provide insights into the lived experiences of prenatal stress among post-partum women who learned and practiced mind-body exercise as a stress-reducing technique during and after their pregnancies. The findings reveal that the women in this study group desired to recognize and control stress to avoid passing on its dangerous effects to the unborn baby for whom they alone are responsible. They also learned and practiced MBE while pregnant and in the safety of a prenatal support group. However, after pregnancy, they no longer thought about using MBE, or used it irregularly and in a non-conforming way. It appeared that for the women in this study, they reverted back to previously learned methods of mediating stress. It is therefore important for the practitioner to listen to the voices of these women and encourage the practice of mind-body exercises as a stress-reducing technique throughout the lifespan.

APPENDIX A: SUBJECT CONSENT FORM

RESEARCH CONSENT FORM

You are being asked to participate as a subject in the research project entitled, “The Lived Experiences of Prenatal Stress and Mind-Body Exercises: Reflections of Post-Partum Women,” being conducted by Karen Migl, MEd, MSN, RNC. Ms. Migl is a student in the UTMB Graduate School of Biomedical Sciences Doctoral Nursing Program. This project is supervised by Dr. Judith C. Drew, RN, PhD, Professor Emeritus at the School of Nursing and a full member of the GSBS faculty. There is no sponsor for this study. Ms. Migl is not receiving funding in any form from any source to conduct this dissertation research. It is a requirement she must meet to complete the Ph.D. degree.

PURPOSE OF THE STUDY

The purpose of this study is to learn about the experiences of post-partum women who learned about mind-body exercises as one way to manage feelings of stress while pregnant. This study seeks to understand the woman’s point of view about stress during pregnancy and mind-body exercises. You may have learned about mind-body exercises in a variety of ways, including relaxation videos, a class at a health club, television programs, or by participating in a structured prenatal education series offered by Dr. Lederman and Ms. Migl in the east and southeast regions of Texas. Participation in this study about prenatal stress and mind-body exercise is voluntary. Ms. Migl will interview you to learn about your own experiences during pregnancy and your own thoughts about mind-body exercises. Ms. Migl is interested in learning about what you think and have to say about your experiences.

PROCEDURES RELATED ONLY TO THIS RESEARCH

Ms. Migl will ask you to describe, in your own terms, your experiences with prenatal stress and mind-body exercises. This is an interview study. There are no procedures or interventions. Nothing will be done to you or given to you in the forms of treatments. There will only be conversation. The investigator will ask you to describe yourself by answering several specific questions like how old you are, how many pregnancies you have had, if you work outside the home, number and ages of children you have, how many years of school you completed, and your lifestyle habits during pregnancy. After you answer the questions stated above, Ms. Migl will interview you for no more than 90 minutes, during which time you can focus on talking about your experiences with prenatal stress, what it is, what it means to you, and your experiences with mind-body exercises now and when you were pregnant.

Ms. Migl may ask to meet with you a second time for no more than 15 minutes if there is something from your first interview that she needs you to clarify. For your convenience,

you may choose to participate in this 15-minute second interview by phone if you are unable to meet in person.

Everyone who participates in this study will be interviewed, individually, in private. Every participant will be asked the very same questions. However, every individual should feel free to answer in her own time. While time spent in conversation with Ms. Migl will vary from person to person, you should expect to give Ms. Migl no more than 90 minutes of your time and 15 additional minutes if she asks you to clarify something you discussed during your first meeting with her.

All interviews will be audiotaped and transcribed so that common experiences shared by many participants in the study can be reported together. Nothing will be reported as an isolated comment that someone might link to you, specifically. Common information is grouped and reported as themes. Aggregate findings from the research will be shared with colleagues so that others may learn about the experiences post-partum women report having with prenatal stress and mind-body exercises. To protect your true identity, a unique code number will be assigned to you and will be known only to Ms. Migl. Your name will never appear on tapes or transcripts. All study materials will be destroyed one year following the completion of this study.

PROCEDURES NOT RELATED TO THIS RESEARCH (i.e. standard of care)

You are only asked to meet with Ms. Migl and talk about your experiences with prenatal stress and mind-body exercises. There are no procedures, no alternate procedures, and no unrelated procedures that you must consider. No care will be given to you; therefore there is no standard of care question or expectation that is involved with your voluntary participation in this study.

RISKS OF PARTICIPATION

The potential risks from participation in this study are few. You may become fatigued during the interview. Another potential risk from participation in the study is loss of confidentiality. However, the investigator will take all possible steps to ensure your confidentiality by coding study materials to reduce this risk and keep study materials in a locked file that only she can access.

NUMBER OF SUBJECTS PARTICIPATING AND THE DURATION OF PARTICIPATION

The anticipated number of subjects involved in the study is 30. All women who are 18 years of age and older, not currently pregnant, who are in a post-partum state for at least

two months and up to two years, and who learned mind-body exercises while pregnant are eligible to participate. If you agree to participate, your commitment of time is a minimum of 90 minutes and a maximum of 105 minutes to complete one or two interviews with Ms. Migl. This study will begin in July 2008 and will be completed by June 2009.

Your commitment of time will be only the interview sessions you agree to schedule and complete with Ms. Migl. While this study will go on for approximately one year, your participation as an individual will last over approximately two months, beginning with the date your first meet with Ms. Migl.

BENEFITS TO THE SUBJECT

There are no direct benefits to you for your participation in this study. However, you may gain additional insights about your experiences with prenatal stress and mind-body exercises.

OTHER CHOICES (ALTERNATIVE TREATMENT)

There are no treatments in this study. You will meet with the investigator only to discuss answers to the interview questions and questions that you think describe you. The alternative to participating in this study is to choose not to participate. Participation in this study is voluntary and not required.

REIMBURSEMENT FOR EXPENSES

There is no direct reimbursement for your participation in this study. However, in appreciation for any inconvenience your participation presents to you, a \$25.00 gift card will be given to you by Ms. Migl at the conclusion of your interview that will last no more than 90 minutes. If you are asked by Ms. Migl to meet with her a second time to clarify something you discussed previously, she will give you a \$10.00 gift card when this 15-minute session is over.

COMPENSATION FOR RESEARCH RELATED INJURY

This is a study that only involves being interviewed by the researcher. The likelihood of you sustaining any type of physical injury because of your participation is extremely rare. However, if you are physically injured in any way because of your participation in this study, UTMB will provide you with the appropriate medical treatment not covered by your own insurance or health care program at no cost to you to the fullest extent permitted by Texas law. You will be responsible for paying any costs related to illnesses and medical events not associated with being in this study. No other forms of compensation are available. However, you are not waiving any of your legal rights by participating in this study.

COSTS OF PARTICIPATION

There will be no cost to you for your participation in this study.

REASONS FOR THE STUDY INVESTIGATOR TO STOP YOUR PARTICIPATION

You may be dropped from the study by the study investigator if the study is discontinued. If this is the case, Ms. Migl will contact you and explain the situation.

PROCEDURES FOR WITHDRAWAL

If at any time you wish to stop your participation in this study, simply contact the investigator at the numbers provided at the end of this consent form. Upon learning of your request, your participation will be ended.

USE AND DISCLOSURE OF YOUR HEALTH INFORMATION

Even though in this interview study no health information is accessed, collected, or used, you must know that all study records that identify you will be kept confidential as required by law. Federal privacy regulations provided under the Health Insurance Portability and Accountability Act (HIPAA) provide safeguards for privacy, security, and authorized access to your records. These regulations require UTMB to obtain authorization from you if it or anyone employed there attempts to use and disclose your health information. By signing this consent form, you are agreeing to participate in this study. You are not authorizing the use and disclosure of your health information related to this research study. Your health information will not be accessed in any way.

Except when required by law, you will not be identified by name, social security number, address, telephone number, or any other direct personal identifier in this study's records. However, you do need to know that study records will be coded without your name and be kept confidential as required by law. You will not be identified by name in study records. A code number will be assigned to you and only Ms. Migl will know that number. The key to the code will be kept in a locked file in Ms. Migl's office.

There are no sponsors for this research. Ms. Migl is acting alone, but under the supervision of her faculty, Dr. Drew, to complete her requirements for a doctoral degree. The study data, meaning the contents of your interview(s), will not be linked to you as an individual. Instead, the data you provide will be put together with data from all other participants and reported that way. You may see or receive a copy of any research reports of findings from this study at its conclusion. Please request those from Ms. Migl.

If you sign this form, you are giving Ms. Migl permission to collect, use, and share the information you provide during the interviews. Your health information is not part of this study and you will not be asked about it nor will it be accessed. You do not need to sign this form. If you decide not to sign this form, you cannot be in the research study. Whether or not you agree to participate in the research project or give us permission to collect, use or share your interview information will not affect the care you will be given at UTMB.

Your interview information, without your name on it, may be reviewed by Dr. Judith Drew, for purposes of assisting Ms. Migl with learning to understand the data analysis process. If for any reason you want to stop your participation in this study, you can at any time. However, you need to inform Ms. Migl at the contact numbers listed in this consent form. You need to say that you have changed your mind and do not wish to continue participating in this study. At that time and thereafter, Ms. Migl may not collect any additional interview information from you. However, she may use the information that she has already collected. It is important to learn everyone's experiences, not just those of persons who complete the research study. The results of this study may be published in scientific journals and presented as posters without identifying you by name.

ADDITIONAL INFORMATION

1. If you have any questions, concerns or complaints before, during or after the research study, or if you need to report a research related injury or adverse reaction (bad side effect), you should immediately contact Ms. Migl at 936-468-1647 at any time of the day or night. You can also contact the voicemail system for Dr. Drew at 713-819-1016.
2. Your participation in this study is completely voluntary and you have been told that you may refuse to participate or stop your participation in this project at any time without penalty or loss of benefits and without jeopardizing your medical care at UTMB. If you decide to stop your participation in this project and revoke your authorization for the use and disclosure of your health information, UTMB may continue to use and disclose your health information in some instances. This would include any health information that was used or disclosed prior to your decision to stop participation and needed in order to maintain the integrity of the research study. If we get any information that might change your mind about participating, we will give you the information and allow you to reconsider whether or not to continue.
3. If you have any complaints, concerns, input or questions regarding your rights as a subject participating in this research study or you would like more information, you may contact Dr. Wayne R. Patterson, Senior Assistant Vice President for Research, Institutional Review Board, at (409) 266-9475.

The purpose of this research study, procedures to be followed, risks and benefits have been explained to you. You have been allowed to ask questions and your questions have been answered to your satisfaction. You have been told who to contact if you have additional questions. You have read this consent form and voluntarily agree to participate as a subject in this study. You are free to withdraw your consent, including your authorization for the use and disclosure of your health information, at any time. You may withdraw your consent by notifying Ms. Migl at 936-468-1647. You will be given a copy of the consent form you have signed.

Informed consent is required of all persons in this project. Whether or not you provide a signed informed consent for this research study will have no effect on your current or future relationship with UTMB.

Date

Signature of Subject

Date

Signature of Authorized Representative
(if applicable)

Description of Authorized Representative's Authority to Act for Subject (if applicable)

Using language that is understandable and appropriate, I have discussed this project and the items listed above with the subject and/or his/her authorized representatives.

Date

Signature of Person Obtaining Consent

APPENDIX B: BIODEMOGRAPHIC DATA SHEET

Code # _____

Biodemographic Data

Age: _____

Years of school completed: _____

Self-identified ethnic affiliation: Hispanic____ African American____ Caucasian____

Other____ (specify)

List all the people who live with you in the same house or apartment: _____

Marital Status (self-described): _____

Age of husband/partner/father of child or children: _____

Race of husband/partner/father of child or children:

Hispanic____ African American____ Caucasian____ Other____ (specify)

Are you employed outside of home?: Yes____ No____

If yes, type of work outside of home: _____ (specify)

Hours per week working outside of home: _____

Is your husband/partner/father of child or children working? Yes____ No____

If yes, type of work/occupation? _____ (specify)

How many times have you been pregnant? _____

How many babies have you delivered? _____

What types of deliveries have you experienced? _____

How many living children do you have? _____

What are their ages? _____

Did you ever have a miscarriage or an abortion? _____

Did you ever deliver a premature baby? (less than 37 weeks pregnant) _____

If yes, how many times did this happen? _____

Did you ever smoke while you were pregnant? _____

Did you ever smoke before pregnancy? ____ Do you smoke now? _____

Did you ever drink alcohol while you were pregnant? _____

Did you drink any alcohol before pregnancy? ____ Do you ever drink now? _____

Did you ever consider taking any drugs like marijuana or crack while you were pregnant? _____

APPENDIX C: INTERVIEW GUIDE

- Tell me what comes to mind when anyone asks you to talk about stress.
- Based on what comes to mind, tell me about any times during your pregnancies when you thought and felt this same way.
- Tell me how you know you might be feeling something like stress, as you describe it and experience it.
 - Probe for: How do you know you have stress? What happens to you?
- Talk about things you think about and do when you have the stress you describe.
- How are the things you have done in response to these thoughts and feeling during one of your pregnancies similar to or different from things you do when you are not pregnant?
- Tell me about any thoughts you have about your unborn baby when you think you are having stress while pregnant.
- What kinds of things do you think about wanting and needing to do when you feel stress during one of your pregnancies.
- When you learned about mind-body exercises during prenatal group meetings, what were your thoughts about them?
- Tell me about how and when you practiced mind-body exercises during pregnancy.
- Tell me about the times when you used mind-body exercises during times of stress now that you are not pregnant.
- What other types of stress-reducing techniques do you use?
- Tell me how you know if and when mind-body exercises help you reduce the amount of stress you feel.
- Why do you think the ways you reduce stress work for you?
- What do you want to tell other women about controlling stress during and after pregnancy?
- What else would you like for me to know about your experiences with the prenatal stress and mind-body exercises?

APPENDIX D: RECRUITMENT LETTER

Recruitment Letter for Mailing

An invitation to participate in a research study entitled, “The Lived Experiences of Prenatal Stress and Mind-Body Exercises: Reflections of Post-Partum Women,” being conducted by Karen Migl, MEd, MSN, RNC

Dear _____,

You are receiving this invitation to participate in this research study because you previously learned and practiced mind-body exercises during your participation in prenatal education support groups conducted in your community. If you think you might be interested in learning more about a research study that is being conducted to explore and describe your experiences with prenatal stress and mind-body exercise, please read on.

My name is Karen Migl. I am a nurse and a doctoral student. Some of your may know me from work on a different research project. The research I am doing that might be of interest to you is approved by the UTMB Institutional Review Board and I will conduct it under the supervision of my major professor.

If you previously participated in the prenatal support groups where you learned and practiced mind-body exercises, you may be interested in finding out more about my study. To learn more, please e-mail me at ksmigl@utmb.edu or call me at 936-559-3784. Please leave a message if I do not answer and I will get back to you as soon as possible.

All information about individuals is kept confidential and only aggregate findings commonly found in the collections of data from all participants are discussed in the report of the dissertation. Contacting me to find out more about

the study in no way obligates you to participate. Participation in the study is voluntary and arranged only after you sign the informed consent. You must be 18 years of age or older and not currently pregnant to qualify for participation if you decide that is what you want to do. Thank you.

Sincerely,

Karen Migl, MEd, MSN, RNC

UTMB Doctoral Student

APPENDIX E: RECRUITMENT FLYER

Recruitment Flyer for Posting

Announcing a Research Study

If you participated in mind-body exercises during a time when you were pregnant, you may be interested in this study!

I am a doctoral nursing student who is conducting a research study about how women feel about prenatal stress and mind-body exercises.

If you are at least 18 years of age and are not currently pregnant but have been in the past, you may be eligible to participate. If you also participated in mind-body exercises during your pregnancies, you may be interested in learning more about this study.

To learn more about this study I am doing, titled, “*The Lived Experiences of Prenatal Stress and Mind-Body Exercises: Reflections of Post-Partum Women*,” please contact Karen Migl, MEd, MSN, RNC:

Phone= 936-559-3784, or email ksmig1@utmb.edu

All information about participants will be confidential and only findings common to the entire group of participants will be reported. The Institutional Review Board at UTMB has approved this study. Their guidelines for the protection of human subjects will be followed at all times.

APPENDIX F: RECRUITMENT TELEPHONE SCRIPT

Recruitment Telephone Script

This script will be used by the PI to discuss the study when potential participants call her in response to a mailed or posted study announcement.

“The Lived Experiences of Prenatal Stress and Mind-Body Exercises: Reflections of Post-Partum Women”

Hello _____,

My name is Karen Migl. I am a nurse and a doctoral student. I am returning a call to you because you left a message for me about your interest in learning more about a study I am doing. If you are at least 18 years of age, not currently pregnant but have been in the past, and you attended prenatal classes that taught you to practice mind-body exercises, you may be eligible to participate if you decide to do so. I am letting you know that I am doing this research study to learn what you and other women who learned mind-body exercises during pregnancy think about them and prenatal stress. The Institutional Review Board at UTMB has approved this study and my major professor is supervising me as I do this study.

The research study that I am conducting is a conversational or interview study where I ask participants to talk about their ideas about prenatal stress and their experiences with mind-body exercise. I want to learn about what you think about these things and how you have experienced them. I expect that if you decide to participate, you may need to meet with me at a place of your choosing one time for no more than 90 minutes. If something you tell me needs clarification, I may ask you to meet me a second time for only 15 minutes. The conversations we have during the meetings will be audiotaped so I can transcribe them and study the things you tell me.

If you have any questions about this study, please never hesitate to ask. I want to be sure you know everything you want to know. If you decide to participate, we will meet in person at a time and place that is convenient for you. You must sign a consent form before you can participate and I will give you a copy to keep.

If you decide you want to participate, please reach me by e-mail at ksmig1@utmb.edu or call me at 936-559-3784. Please leave a message if I do not answer and I will get back to you as soon as possible.

All information about individuals is kept confidential and only findings commonly held by the entire group of participants will be reported. Having contacted me to find out more about this study in no way obligates you to participate. Participation in the study is voluntary and arranged only after you sign the informed consent. Thank you.

APPENDIX G: CODE BOOKS 1, 2, & 3

Code Book 1

Emergent Concept Basket Designation: Collapsing Preliminary Data Sorts

1. Descriptions of stress

"... any stressors in daily life" (S1 L11)

"I'm having a hard time doing—dealing with what is going on around me and what's expected of me. And I just can't match it up without getting anxious or overwhelmed. (S2 L11-15)

"I have symptoms of physical stress. I physically feel it in my body—aches, my arms are tired, legs are tired, I get headaches. I even sometimes feel like my eyes are swollen and even sick at my stomach. I just have a lot of— More physical than mental" (S3 L17-21)

"Stress, to me, it's like when I haven't paid my bills." (S5L 10-12)

"Stress, to me, means being out of control, like not having control over the situation, or not having control over my feelings and my reactions to things. It's usually a physical experience, as well. " (S8L 10-21)

2. Descriptions of stress during pregnancy

"I never got tired of being pregnant, but I was physically tired from being pregnant." (S1 L40)

"The stress, for me, was working when I didn't want to work and not feeling good or just being worn out and still having things that were required from me." (S2 39-41)

"When I was pregnant and I would get stressed, I would get really scared, because I wasn't just thinking—it wasn't just me that I had to take care. I had to take of my baby. " (S4 39-41)

"...all of a sudden I would get like emotional, and I would cry for no reason." (S5 L55)

3. Experience of feelings during stress

"I tend to get a little anxious when I'm stressed and find myself not being able to think as clearly, have to make more notes to myself and write things down." (S1-58-61)

"The best way I can think to explain it is, it's a feeling and it just feels like things are getting out of control for me". (S2 58)-69

"Sometimes I feel it up in my shoulders, in my neck, and my arms will feel just really heavy, and it just depends on what I'm doing". (S3 65-75)

"I know that I'm not, that stress is coming on, when I start to be short with other people, or little things will just irritate me, whereas, if I were not stressed, it just rolls right off. I'm unable—I think I'm a little less compassionate when I'm stressed out". (S8L78—80)

4. Thoughts and actions during stress

"I guess I need to just refocus myself and try to come back to reality and calm down because being stressed doesn't really help anything". (S1 L78-80)

I'll call my mama, of course, and talk to her, or sometimes I watch TV. I listen to music to kind of get me away from the feeling that I'm having". (S4 L124-127)

"I usually try to find a way to detox, I guess. I go outside with the kids and usually forget about it for a while; forget the house is a wreck, go out and play in the dirt with the kids and just sit there and enjoy the day. When my husband comes home, sometimes I unload

to him and say, "I just—I need your help. Can you please clean this kitchen for me because it's just—right now I'm just feeling like there's too much. I don't even want to look at the kitchen; can you please help me?" (S6 L147-153)

5. Difference in response to feelings and thoughts of stress during pregnancy vs. not pregnant

"I don't know that there's a huge difference. I think that—especially with the classes—it made me more aware, and I knew that I wasn't just taking care of myself, but I was taking care of the baby, so it helped me to be more aware of stressful times and to be able to calm myself more easily". (S1L 88-94)

"So, if I'm pregnant and I'm just getting really stressed out and I can't handle things, then I'll just go off by myself or I'll shut the office door and put my feet up and close my eyes and just breathe deep and just kind of clear my head for a bit. If I'm not pregnant, then I'll just plough through. I'll just figure it out". (S2L117-129)

"They're really very similar, what I did during my pregnancy and now afterwards. I think the only significant difference would be some of the physical things that I had to do while I was pregnant. I would definitely lie down and take a nap in the afternoon, or make sure to lie down and put my feet out, just stretch out on the sofa at the end of the day, and literally prop up my feet. I don't do those things as much now, but that was definitely a response to being physically more tired, and knowing too that—and I found that if I did keep pushing through while I was pregnant, not taking a nap or not putting my feet up, then I'd get exhausted and hence, more stressed out and couldn't focus on other, so I cycled around or looped back around. It's a vicious circle". (S8L 269-284)

"I listened to a CD a lot that I got in the class and that helped calm me down. Stuff I do now—I still listen to the CD a lot when I get like that, but, I just try to stay occupied". (S9 L145-157)

6. Thoughts about unborn baby during stress

"I would get scared that something was going to be wrong with him if I stayed stressed". (S4 L188-196)

"I didn't have negative feelings towards the baby. I always felt very excited about the baby to come. Sometimes I might have had feelings that am I going to be able to be a good mom? Am I going to provide what this child needs"? (S6 L240-245)

"I thought something was seriously going to be wrong with them. I didn't think that they would be healthy. I had a lot of negative thoughts—I'm going to look this way and be this way and not have this and not have that. I just had to keep thinking positive when I get—I used to cry a lot. I thought a lot of stuff. That they would have Down's Syndrome or not have all 5 fingers or toes. It's just that I had a lot of negative thoughts, even though when I went to the doctor, everything was fine I just worried about it. ... my first pregnancy and I just wanted everything to be perfect and I wanted them to be healthy". (S9 L175-187)

7. Actions needed when feeling stress during pregnancy

"Just me getting away from what is stressing me and if there's a way that I can put out the fire—if you could say that—and keep the situation on hold long enough for me to just go re-gather my strength, my composure—that was what I did when I was pregnant". (S2 L 181-191)

” I would have to say that the main thing—I think the most important thing would be to get your rest, to be able to stop and lay down and have quiet time, even if not for the 15 minutes”. (S3 L267-274)

“So I did exercise quite a bit. Just get out in the fresh air and open sky and exercise, that's very helpful for me”. (S6L283-285)

....” talking to my mother— and my sister. I mean, I am so close to my mother and my father too. I still, I mean, we talk to each other probably every other day”. (S8L383-391)

8. Thoughts about MBE when presented in prenatal support group meeting

“Well, I guess at first I was a little skeptical, but as I did them and got more open-minded and actually participated with them, I think that they did help”. (S1L 139-142)

“They took me to another place. It took me away from whatever I was feeling or whatever was going on, because when I closed my eyes and just breathe, I feel like I’m in a totally different place”. (S4 256-260)

“It really helped. It calms you. It takes your mind off of other things and you just relax. You just feel rested. I really enjoyed that. It helped me out a lot “. (S9L227-230)

9. How and when practiced MBE during pregnancy

“Usually in the evening after I had gone through work. I felt like that was the best time to do it. It was later in the evening when I had time to actually sit down and relax, and I would just turn the lights down and lay on the sofa or on the bed and listen to the tapes”. (S1L 147-152)

“I remember that very well. We were living in the RV between the bedroom and the living room is our small little bathroom, and I could close off the doors to both sides and it would be very dark in there. and I would get my child's little stool that she would use up to the counter. And I would sit there on her stool and of course spread my legs out because of the pregnant belly and I would sit there and that's where I would—usually after she was asleep, and sometimes while she was going to sleep, so that I could sit there right at the door and listen for her. And that's where I would do the progressive relaxation and use the techniques we talked about”. (S6 L342-355)

“I always did all mine when I was getting in the bed at night. That was the only free time I got. I would turn off the lights, and I would put on my Walkman and close my eyes, and that’s when I would do it”. (S10L 199-203)

10. Use of MBE now (not pregnant)

“I guess now I don’t listen to the tapes, but just having the background of knowing that information makes it easier to be able to refocus yourself. So you can go back and actually use the information without listening to the tapes”. (S1 L158-162)

“I still use it at night sometimes”. (S2L 251)

“I still use that one, the body scan. A lot, like I use it—I don’t know how many times a day I can tell you I use it, but I use it a lot. When I get stressed or I feel myself getting upset. I use it at work. I use it at home, mostly at work though”. (S4 L284-294)

“I tried to. I didn’t find that they worked as well, I guess. I don’t know why. I mean, they did—maybe because I didn’t have my baby to focus on, I think. I always went in to focus with the baby, and then she’s not there anymore”. (S10L219-224)

11. Other stress-reducing techniques used

“Exercise. You know, I find that a lot of times whenever I get frustrated, if I go take a walk or just get out in the sunshine and work in the garden or things like that that help—those things help me to relieve stress”. (S1L 181-185)

“Every once in awhile, I’ll have a beer. Or some wine”. (S2 L280-289)

“Like I said before, I listen to music”. (S4L 310)

“I tried to exercise, and walking, and put the energy that way. It’s been helpful recently. Crossword puzzle or taking 10 minutes for myself has been very helpful”. (S7L 383-386)

“Sleeping pills”. (S10L 235)

12. Knowing when MBE reduces stress

“It’s a physical feeling. It’s relaxation. I carry a lot of tension. In my job, I work with CPS and it can be a very stressful job. I tend to carry a lot of the emotions that I see with me. Even though I don’t realize it, it just happens. So, when I do use that, it’s a physical draining of tension—is the best way I can think of to describe it. And I get that breath that—I can actually feel my body just kind of let go”. (S2L 299-307)

“I don’t have a headache, or my stomach is not hurting, or I’m not sad”. (S4 382-383)

“It’s pretty evident at night when I can’t sleep, I’m tensed up. I’ve just got all these thoughts and emotions running through my mind and then after the mind/body exercise I go to sleep”. (S6L 554-557)

“I feel more like myself. Back to normal again. Energetic. Just being me, being myself and being the person that I know that I am and like I said, it helps me a lot. Keeps my mind focused where it’s supposed to be”. (S9L381-385)

13. Knowing why ways you reduce stress work

“I guess just because I’m able to clear my mind and refocus and relax”. (S1L217-220)

“After awhile, after I’ve laid down, I can get up, and my kids can be fighting, and I don’t care. It doesn’t bother me. I’ll be happier, and I’ll be joking with my kids there. I can play around with my kids. I’ll notice it’s different. I’ve actually taken some of that stress off. I won’t be yelling at my kids. I’ll get up, and I’ll be okay”. (S5L 637-643)

“I can tell that. If I just try and—if I’m stressed out and I don’t do anything to let go of that before I focus, then—that 5 minutes, it’s not wasted time, because if I don’t relax and do the mind-body breathing, and try to do that, that half hour can be lost of just me wringing my hands”. (S8L 617-622)

14. What do you want to tell other women about controlling stress during and after pregnancy?

“I guess just to make sure that you focus on not only yourself but on the baby that you’re going to have. I think that being stress-free after pregnancy is just as important as being stress-free during pregnancy because I think that the effect on the newborn toddler, school-age kid, all the way up to adulthood”. (S1 L225-231)

“But it’s also important that you take time to relax and realize that you’re stressed out and let go of some of that stress, physically and inside, so you can make the effective decisions that you need to. You can be a good mom and be a good partner because if you can’t take care of yourself, you can’t take care of those around you”. (S2L354-360)

15. Experiences with prenatal stress and MBE (other information)

“It’s a physical feeling. It’s relaxation. I carry a lot of tension. In my job, I work with CPS and it can be a very stressful job. I tend to carry a lot of the emotions that I see with

me. Even though I don't realize it, it just happens. So, when I do use that, it's a physical draining of tension—is the best way I can think of to describe it. And I get that breath that—I can actually feel my body just kind of let go". (S2L 299-307)

"I don't have a headache, or my stomach is not hurting, or I'm not sad". (S4 382-383)

"It's pretty evident at night when I can't sleep, I'm tensed up. I've just got all these thoughts and emotions running through my mind and then after the mind/body exercise I go to sleep". (S6L 554-557)

"I feel more like myself. Back to normal again. Energetic. Just being me, being myself and being the person that I know that I am and like I said, it helps me a lot. Keeps my mind focused where it's supposed to be". (S9L381-385)

Code Book 2

Emergent Concept Basket Designation: Collapsing Preliminary Data Sorts

1. Experiences of stress

(Baskets I- Descriptions of stress, 2- Descriptions of stress during pregnancy & 3- Experience of feelings during stress, combined) (Baskets 1, 2,& 3 now Basket I- Experiences of stress)

Summary: Participants describe stress in many different ways, jobs, financial concerns, support of family and significant other. They describe their responses in terms of "need to care for unborn baby" because they know stress is not good for them and also can have a negative influence on birth outcome.

These women describe many physical manifestations of stress and state that they feel "responsible" to care for themselves, thereby, caring for their unborn child.

"... any stressors in daily life" (S1 L11)

"I'm having a hard time doing—dealing with what is going on around me and what's expected of me. And I just can't match it up without getting anxious or overwhelmed. (S2 L11-15)

"I have symptoms of physical stress. I physically feel it in my body—aches, my arms are tired, legs are tired, I get headaches. I even sometimes feel like my eyes are swollen and even sick at my stomach. I just have a lot of— More physical than mental" (S3 L17-21)

"Stress, to me, it's like when I haven't paid my bills." (S5L 10-12)

"Stress, to me, means being out of control, like not having control over the situation, or not having control over my feelings and my reactions to things. It's usually a physical experience, as well." (S8L 10-21)

"I never got tired of being pregnant, but I was physically tired from being pregnant." (S1 L40)

"The stress, for me, was working when I didn't want to work and not feeling good or just being worn out and still having things that were required from me." (S2 39-41)

"When I was pregnant and I would get stressed, I would get really scared, because I wasn't just thinking—it wasn't just me that I had to take care. I had to take of my baby. " (S4 39-41)

"...all of a sudden I would get like emotional, and I would cry for no reason." (S5 L55)

“ I tend to get a little anxious when I’m stressed and find myself not being able to think as clearly, have to make more notes to myself and write things down.” (S1-58-61)

“The best way I can think to explain it is, it’s a feeling and it just feels like things are getting out of control for me”. (S2 58)-69

“Sometimes I feel it up in my shoulders, in my neck, and my arms will feel just really heavy, and it just depends on what I’m doing”. (S3 65-75)

“I know that I’m not, that stress is coming on, when I start to be short with other people, or little things will just irritate me, whereas, if I were not stressed, it just rolls right off. I’m unable—I think I’m a little less compassionate when I’m stressed out”. (S8L176-181)

2. Thoughts about actions needing to use to decrease stress during pregnancy and after pregnancy

(Baskets 4, 5, 6 & 7 collapsed-4- Thoughts and actions during stress, 5- Difference in response to feelings and thoughts of stress during pregnancy vs. not pregnant -. 6- Thoughts about unborn baby during stress and & 7- Actions needed when feeling stress during pregnancy) (Now Basket 2-Thoughts about actions needing to use to decrease stress during pregnancy and after pregnancy)

Summary

The participants all state the need to reduce stress during pregnancy because of potential risks to the unborn baby. However, once the baby is born, most do state that they do not do all the stress reducing interventions they did while pregnant. It appears that the state of pregnancy allows the women to take the “time” to reduce stress. It is also noted that these women state that significant others as well as family members and even complete strangers, treat them special while they are pregnant and seek to accommodate their needs and desires.

“I guess I need to just refocus myself and try to come back to reality and calm down because being stressed doesn’t really help anything”. (S1 L78-80)

I’ll call my mama, of course, and talk to her, or sometimes I watch TV. I listen to music to kind of get me away from the feeling that I’m having”. (S4 L124-127)

“I usually try to find a way to detox, I guess. I go outside with the kids and usually forget about it for a while; forget the house is a wreck, go out and play in the dirt with the kids and just sit there and enjoy the day. When my husband comes home, sometimes I unload to him and say, "I just—I need your help. Can you please clean this kitchen for me because it's just—right now I'm just feeling like there's too much. I don't even want to look at the kitchen; can you please help me?" (S6 L147-153)

“I don't know that there’s a huge difference. I think that—especially with the classes—it made me more aware, and I knew that I wasn’t just taking care of myself, but I was taking care of the baby, so it helped me to be more aware of stressful times and to be able to calm myself more easily”. (S1L 88-94)

“So, if I’m pregnant and I’m just getting really stressed out and I can’t handle things, then I’ll just go off by myself or I’ll shut the office door and put my feet up and close my eyes and just breathe deep and just kind of clear my head for a bit. If I’m not pregnant, then I’ll just plough through. I’ll just figure it out”. (S2L117-129)

“They’re really very similar, what I did during my pregnancy and now afterwards. I think the only significant difference would be some of the physical things that I had to do while I was pregnant. I would definitely lie down and take a nap in the afternoon, or make sure to lie down and put my feet out, just stretch out on the sofa at the end of the day, and literally prop up my feet. I don’t do those things as much now, but that was definitely a response to being physically more tired, and knowing too that—and I found that if I did keep pushing through while I was pregnant, not taking a nap or not putting my feet up, then I’d get exhausted and hence, more stressed out and couldn’t focus on other, so I cycled around or looped back around. It’s a vicious circle”. (S8L 269-284)

“I listened to a CD a lot that I got in the class and that helped calm me down. Stuff I do now—I still listen to the CD a lot when I get like that, but, I just try to stay occupied”. (S9 L145-157)

“I would get scared that something was going to be wrong with him if I stayed stressed”. (S4 L188-196)

“I didn’t have negative feelings towards the baby. I always felt very excited about the baby to come. Sometimes I might have had feelings that am I going to be able to be a good mom? Am I going to provide what this child needs”? (S6 L240-245)

”I thought something was seriously going to be wrong with them. I didn’t think that they would be healthy. I had a lot of negative thoughts—I’m going to look this way and be this way and not have this and not have that. I just had to keep thinking positive when I get—I used to cry a lot. I thought a lot of stuff. That they would have Down’s Syndrome or not have all 5 fingers or toes. It’s just that I had a lot of negative thoughts, even though when I went to the doctor, everything was fine I just worried about it. ... my first pregnancy and I just wanted everything to be perfect and I wanted them to be healthy”. (S9 L175-187)

“Just me getting away from what is stressing me and if there’s a way that I can put out the fire—if you could say that—and keep the situation on hold long enough for me to just go re-gather my strength, my composure—that was what I did when I was pregnant”. (S2 L 181-191)

” I would have to say that the main thing—I think the most important thing would be to get your rest, to be able to stop and lay down and have quiet time, even if not for the 15 minutes”. (S3 L267-274)

“So I did exercise quite a bit. Just get out in the fresh air and open sky and exercise, that’s very helpful for me”. (S6L283-285)

“...talking to my mother— and my sister. I mean, I am so close to my mother and my father too. I still, I mean, we talk to each other probably every other day”. (S8L383-391)

3. Thoughts about M-B exercise and application during pregnancy

(Baskets 8- Thoughts about MBE when presented in prenatal support group meeting & 9- How and when practiced MBE during pregnancy, combined) (Basket3. Thoughts about M-B exercise and application during pregnancy)

Summary: Most participants recall practicing the M-B exercises at night before bed when the household was quite. Some speak of the M-B exercises taking them to another place of relaxation so that they could focus on relaxing and getting the days’ events out of their way.

“Well, I guess at first I was a little skeptical, but as I did them and got more open-minded and actually participated with them, I think that they did help”. (S1L 139-142)

“They took me to another place. It took me away from whatever I was feeling or whatever was going on, because when I closed my eyes and just breathe, I feel like I’m in a totally different place”. (S4 256-260)

“It really helped. It calms you. It takes your mind off of other things and you just relax. You just feel rested. I really enjoyed that. It helped me out a lot “. (S9L227-230)

“Usually in the evening after I had gone through work. I felt like that was the best time to do it. It was later in the evening when I had time to actually sit down and relax, and I would just turn the lights down and lay on the sofa or on the bed and listen to the tapes”. (S1L 147-152)

“I remember that very well. We were living in the RV between the bedroom and the living room is our small little bathroom, and I could close off the doors to both sides and it would be very dark in there. and I would get my child's little stool that she would use up to the counter. And I would sit there on her stool and of course spread my legs out because of the pregnant belly and I would sit there and that's where I would—usually after she was asleep, and sometimes while she was going to sleep, so that I could sit there right at the door and listen for her. And that's where I would do the progressive relaxation and use the techniques we talked about”. (S6 L342-355)

“I always did all mine when I was getting in the bed at night. That was the only free time I got. I would turn off the lights, and I would put on my Walkman and close my eyes, and that’s when I would do it”. (S10L 199-203)

4. Use of M-B exercises now and how you know it helps to reduce your stress

(Baskets 10- Use of MBE now (not pregnant), 12- Knowing when MBE reduces stress - & 15 - Experiences with prenatal stress and MBE (other information), combined. (Now Basket 4- Use of M-B exercises now and how you know it helps to reduce your stress)

Summary: Most use the M-B exercises even now. Some continue to use the CD instructions while others state that having the M-B exercise training helps them to refocus and feel more relaxed during times of stress. Two participants had previous M-B experience. Most express that the experience of MB training gave them another tool to use to reduce stress

“I guess now I don’t listen to the tapes, but just having the background of knowing that information makes it easier to be able to refocus yourself. So you can go back and actually use the information without listening to the tapes”. (S1 L158-162)

“I still use it at night sometimes”. (S2L 251)

“I still use that one, the body scan. A lot, like I use it—I don’t know how many times a day I can tell you I use it, but I use it a lot. When I get stressed or I feel myself getting upset. I use it at work. I use it at home, mostly at work though”. (S4 L284-294)

“I tried to. I didn’t find that they worked as well, I guess. I don’t know why. I mean, they did—maybe because I didn’t have my baby to focus on, I think. I always went in to focus with the baby, and then she’s not there anymore”. (S10L219-224)

“It’s a physical feeling. It’s relaxation. I carry a lot of tension. In my job, I work with CPS and it can be a very stressful job. I tend to carry a lot of the emotions that I see with me. Even though I don’t realize it, it just happens. So, when I do use that, it’s a physical

draining of tension—is the best way I can think of to describe it. And I get that breath that—I can actually feel my body just kind of let go”. (S2L 299-307)

“I don’t have a headache, or my stomach is not hurting, or I’m not sad”. (S4 382-383)

“It’s pretty evident at night when I can’t sleep, I’m tensed up. I’ve just got all these thoughts and emotions running through my mind and then after the mind/body exercise I go to sleep”. (S6L 554-557)

“I feel more like myself. Back to normal again. Energetic. Just being me, being myself and being the person that I know that I am and like I said, it helps me a lot. Keeps my mind focused where it’s supposed to be”. (S9L381-385)

“I think I can do a lot better for myself. I think I need to prioritize and decide what it is that I need to be doing, and all these extra things that maybe I commit myself to that maybe I should cut back on some things and try to enjoy life a little more instead of just working from the time I get up until the time I go to bed”. (S3 583-590)

“The exercises helped a lot. Like I said, it helped put me a step further from what I was doing before, so they helped a lot. Being in a group and talking to other first time mothers or other mothers that had—this was their second, or third, or fourth baby, or whatever. Hearing their experiences, I could put theirs with mine, and try to figure out what I was going to do with myself. It helped a lot”. (S4L 487-498)

“I loved the group and it helped me out a lot because when I would go to meet with them, I felt like, even though I wasn’t really familiar with everybody, I felt like, “Okay, this is my time to come and relax and my time to talk about stuff that I have questions about and concerns about and getting answers from people that I know that may be either going through the same thing that I’m going through or similar or people that can be there and also help and keep me and guide me in the right direction that I need to be going in.” I really enjoyed it. I wish I could just do it again. You know, after being pregnant, but it helped me a lot. It really did”. (S9 436-439)

5. Other types of stress-reducing techniques used and why they work for you

(Baskets 11-Other types of stress-reducing techniques used & 13-Knowing why the ways you reduce stress work, combined) (Basket 5- Other types of stress-reducing techniques used and why they work for you)

Summary: Participants voiced stress-reducing techniques such as exercise, walking, listening to music, reading, housework, massage, laying down for a few minutes and even having a drink. Most state that these activities help them to clear their mind and refocus so they can relax and reduce stress.

“Exercise. You know, I find that a lot of times whenever I get frustrated, if I go take a walk or just get out in the sunshine and work in the garden or things like that that help—those things help me to relieve stress”. (S1L 181-185)

“Every once in awhile, I’ll have a beer. Or some wine”. (S2 L280-289)

“Like I said before, I listen to music”. (S4L 310)

“I tried to exercise, and walking, and put the energy that way. It’s been helpful recently. Crossword puzzle or taking 10 minutes for myself has been very helpful”. (S7L 383-386)

“Sleeping pills”. (S10L 235)

“I guess just because I’m able to clear my mind and refocus and relax”. (S1L217-220)

“After awhile, after I’ve laid down, I can get up, and my kids can be fighting, and I don’t care. It doesn’t bother me. I’ll be happier, and I’ll be joking with my kids there. I can play around with my kids. I’ll notice it’s different. I’ve actually taken some of that stress off. I won’t be yelling at my kids. I’ll get up, and I’ll be okay”. (S5L 637-643)

“I can tell that. If I just try and—if I’m stressed out and I don’t do anything to let go of that before I focus, then—that 5 minutes, it’s not wasted time, because if I don’t relax and do the mind-body breathing, and try to do that, that half hour can be lost of just me wringing my hands”. (S8L 617-622)

6. What do you want to tell other women about controlling stress during and after pregnancy?

Basket 14 now (Basket 6)

Summary: The participants of this study wanted to tell other women the importance of taking care of themselves. By taking care of themselves, they indeed would be taking care of those around them both during and after pregnancy as well. They felt the importance of finding individual ways of dealing with stress.

“I guess just to make sure that you focus on not only yourself but on the baby that you’re going to have. I think that being stress-free after pregnancy is just as important as being stress-free during pregnancy because I think that the effect on the newborn toddler, school-age kid, all the way up to adulthood”. (S1 L225-231)

“But it’s also important that you take time to relax and realize that you’re stressed out and let go of some of that stress, physically and inside, so you can make the effective decisions that you need to. You can be a good mom and be a good partner because if you can’t take care of yourself, you can’t take care of those around you”. (S2L354-360)

Code Book 3

Emergent Concept Basket Designation: Collapsing Preliminary Data Sorts

Research Question 1

What are the lived experiences of prenatal stress among post-partum women who learned and practiced mind-body exercises as a stress-reducing technique during their pregnancies?

MEANINGFUL SOURCES OF STRESS

Realizing you are responsible for another human being (S7)

-organizes and abstracts meanings of statements that describe fears about being stressed while pregnant and previous and vicarious knowledge about how stress affects unborn babies.

Scared something is wrong with the baby/fear baby is abnormal – S2,S3,S4, S8, S9

Crying a lot can’t be good for the baby/chemicals released – S2

Baby always feels the way you are feeling – S10

Everything you do in pregnancy affects the baby – S4,S10

Trying to take care of self/must rest – S4,S7,S10

Stress during pregnancy is not good for baby or body – 1, 7, 9, 10

Getting ready to parent (S4, S6,)

-organizes and abstracts meanings of statements that describe ways in which planning to provide for the baby raised concerns and contributed to feelings of stress.

Unpaid bills/financial worries – S5,S 9

Needing many things for the babies – S6

Trying to keep up with what is expected of me – S2, S7

Relationship problems – S2, S5, S9, S10 (also part of ‘feeling out of control’)

Feeling out of control (S 1, S2, S3, S6, S8,S 10)

-organizes and abstracts meanings of statements that describe internal and external events that were described as being beyond control by participants because of their inability to prioritize and influence the power of the stressful stimuli.

Having a lot of issues – S9

Children not following rules at home, buttons getting pushed – S10

Trying to figure out how to deal with school, baby, job – S1, S6,S2

Little control over relationship problems – S2, S5, S9, S10

Employment/job – 1, 2, 3, 4, 7

Hormones – 2, 5

Meaningful Symptoms of Stress

Not feeling physically well (S all)

-organizes and abstracts meanings of statements that describe recognizable physical complaints discussed by participants as responses to stress.

Headaches and body aches – S3, S4, S5 , S7, S8,

Body swelling, sick stomach, perspiration, ^heart rate –S4, S5, S8

Belly gets hard – S5

Fatigue – S1, S3, S8

Emotionally overwhelmed (S most)

-organizes and abstracts meanings of statements that describe psycho-emotive responses to stress.

Anxiety, feeling out of touch, out of control, not myself, “low” – S1, S2,S6, S8, S9, S10

Cry easily, short with people, frustrated – S4, S5, S8, S10

Belly gets hard - S5

Meaningful Interpretations of Stress

Keep stress to a minimum (S most)

-organizes and abstracts meanings of statements that describe what participants recommended to others about stress in daily life: pregnant or not.

Everything you do in pregnancy affects the baby too – S4

Control stress in your pregnancy and you'll have a healthy baby – S5, S7

Stressed kids are difficulty to handle and manage – S7

Take care of yourself and you'll take care of those around you – S2

Don't give your stress to the baby – S7

Pour positive energy into your kids

-organizes and abstracts meanings of statements that describe what participants recommended to others about reducing stress and showing your children how it can be done.

Be with people; Rely on a social network – S8, S9

Don't take things so seriously; enjoy life more – S3, S10

Move around and exercise – S4, S8

Don't let stress be your mode of operation – S2, S7, S10

Meaningful Responses to Prenatal Stress

Seek support from others (S 2, S3, S4, S5, S6, S9)

-organizes and abstracts meanings of statements that describe who the participants reached out to when stressed.

Talk to mother, sister, friends – S4, S5, S8

Spouse takes over chores, kids, and encourages rest –S4, S5, S9

Relieve symptoms

-organizes and abstracts meanings of actions individual participants had in common with others as far as helping themselves relieve physical and psycho-emotive feelings of stress without regard to altering the cause(s).

Put up feet, lay down, refocus, take a bath, be quiet –S2, S3, S4, S5, S6, S7, S8, S9, S10

Seek counseling, ask for help, learn to control anger –S5, S6, S7, S10

Walk, exercise, play with the children – S6, S9

Creative use of distractions (music, phone call to mom, go play with kids)-S most

Research Question 2

How do post-partum women with previous mind-body exercise training describe their lived experiences using this stress-reducing technique during and after their pregnancies?

MEANINGS MBE HAS IN PARTICIPANTS' LIVES

WAY TO BREAK THE VICIOUS CYCLE OF STRESS (S - MOST)

-organizes and abstracts meanings of statements that describe what participants say they learned from MBE training about recognizing and taking charge of controlling stress.

More aware of stress – S1, S4, S6, S7, S8

Learned the warning signs of stress; caught them early – S1, S4, S7, S8, S9

New ways of coping; Calm myself more easily – S6, S9

Put hold on stressful situation and regain composure – S1, S2, S4, S8, S9

Reminded me to slow down – S5, S6, S8

Tools to get to a better place (S- majority)

-organizes and abstracts meanings of statements that describe what MBE techniques were used by participants and what using them enabled the participants to do about the physical and psycho-emotive stress they experienced. Most were experiences that were new with MBE training and not known or used prior.

Took me to another place; get problems out of the way – S4, S5, S9

Music CD from class helped me calm down - S9,

Meditation and deep breaths - S1, S4

Taught me to relax from head to toe - S5, S6

Visualize/picture what you want – S6

Re-focus our busy lives - S7

Patterns of Use of MBE

MBE patterns of use during pregnancy

-organizes and abstracts meanings of statements that describe specific MBE techniques used by participants during their pregnancies.

At night; before sleep, after everyone else is asleep – S2, S4, S6, S7, S9, S10

In solitude (go in room and close the door/ turn down lights, prop up feet, lay down in bed; when nothing else needed their attention – S1, S6, S8, S9, S10

After dinner, quietly in room – S5

During daytime stress at work - S4

MBE patterns of use after pregnancy - carryover practices?

-organizes and abstracts meanings of statements that describe specific MBE techniques that are currently used by participants when not pregnant.

Use it sometimes to clear my head, focus, and re-group – S1, S2, S8, S9

When baby falls asleep; listen to CD and re-focus – S1, S7

Don't use it anymore now that baby is not inside – S5, S10

APPENDIX H: PRENATAL SUPPORT GROUPS AND MIND-BODY EXERCISES

Purpose

- Provide the opportunity for pregnant women to discuss topics of interest and concerns to enhance the understanding of the pregnancy experience.
- Provide support to and a support network for pregnant women
- Provide the opportunity for pregnant women to learn and practice mind-body relaxation exercises.

Session Content

- Information and discussion of pregnancy
- Discussion of motherhood role
- Discussion of relationship with mother, husband/partner
- Discussion of coping with labor and birth
- Teaching and practicing of one new Mind-Body exercise each week during the five week sessions

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VITA

Karen Sue Migl was born in Montgomery, Alabama. She had one older sister, and together they were raised by their parents, Robert and Louise Coale. She attended Dallas County Independent School District and graduated from A. G. Parrish High School in 1968. She attended The University of Alabama in Birmingham, School of Nursing, and was in the second class to graduate with a BSN in 1972. She moved to Houston, Texas upon graduation to accept a job at M. D. Anderson Hospital and Tumor Institute.

Karen married Donald R. Migl in 1974. She worked as a Registered Nurse for The Texas Department of Health while he attended The University of Houston School of Optometry and worked part-time as a pharmacist. Karen moved with her husband to Nacogdoches, Texas after completion of optometry school. She worked full-time for the Texas Department of Health while raising two sons and one daughter. She attended the University of Texas Health Science Center Dallas and obtained a certification as a women's health nurse practitioner in 1987. She started the first indigent prenatal clinic in Nacogdoches under the supervision of the Texas Department of Health. She went on to obtain a master's in education in 1991 from Stephen F. Austin State University. Karen was hired by SFASU at that time as nursing faculty. She was in the first distance education class offered by The University of Texas Medical Branch to SFASU and obtained her MSN in nursing administration in 1996. In 2003, UTMB offered the nursing PhD program via distance education and Karen was admitted to that class.

Honors awarded to Karen include; Stephen F. Austin State University Student Life nominee, SFASU Teaching Excellence Award nominee, UTMB, SON, Research Scholars Program for Students and recipient of the Regina R. and Alfonso J. Mercatante Memorial Scholarship and the Marie and Talbert Aulds Scholarship. She remains an active member of the following professional organizations and honor societies: Texas Nurses Association, Sigma Theta Tau International Honor Society of Nursing-Omicron Eta Chapter-Charter Member, Southern Nursing Research Society, AWHONN member, and Life Member of SFASU Alumni Association.

Education

B.S.N., June 1972, The University of Alabama in Birmingham, Birmingham, Alabama
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SUMMARY OF DISSERTATION

Prenatal stress experienced by pregnant women has been linked to unfavorable birth outcomes. The majority of quantitative research reports found in the literature consistently make the point that elevated prenatal maternal stress levels are strongly and positively related to pre-term deliveries, low birth weights, and adverse health events that may affect the life of the child forever. To narrow this gap in knowledge, the overall purpose of this descriptive phenomenological study was to elicit and describe reflections post-partum women with prior training in stress-reducing techniques reveal about their lived experiences with prenatal stress and the psychological meanings they ascribe to how, when and where they acted to mediate the stress they experienced

Findings revealed that the women in this study group desired to recognize and control stress to avoid passing on its dangerous effects to the unborn baby for whom they alone are responsible. They also learned and practiced MBE while pregnant and in the safety of a prenatal support group. However, after pregnancy, they no longer thought about using MBE or used it irregularly and in a non-conforming way. It appeared that for the women in this study, they reverted back to previously learned methods of mediating stress. Health care providers can have a significant impact on the health of women and their children for a lifetime if MBE was taught in a support group setting without a restrictive context but in a broader one such as a well woman setting. It may make a difference in how women respond to stress before pregnancy is ever considered.

While the findings of this study cannot be generalized to groups beyond those similar to the study group, they still offer to begin to close the gap in knowledge about how, what, and why women choose particular strategies over others to help them manage prenatal stress. It also begins to answer questions about how women view stress while pregnant and in the post-partum condition. Pregnant women's preferences for non-invasive stress-relieving strategies also need further exploration as do the study group's interpretation that the mother is primarily responsible for the health of her baby.