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The relationships among perceived stress, locus of control and coping during the third trimester of pregnancy

Barbara Slatten Jared

To the Graduate Council:

I am submitting herewith a thesis written by Barbara Slatten Jared entitled "The relationships among perceived stress, locus of control and coping during the third trimester of pregnancy." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Nursing.

Patricia G. Droppleman, Major Professor

We have read this thesis and recommend its acceptance:

Johnie Mozingo, Sandra Thomas

Accepted for the Council:
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To the Graduate Council:

I am submitting herewith a thesis written by Barbara Slatten Jared entitled "The Relationships Among Perceived Stress, Locus of Control and Coping During the Third Trimester of Pregnancy". I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science in Nursing.

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We have read this thesis
and recommend its acceptance:

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THE RELATIONSHIPS AMONG PERCEIVED STRESS, LOCUS OF CONTROL AND COPING DURING THE THIRD TRIMESTER OF PREGNANCY

A

Thesis

Presented for the

Master of Science in Nursing

Degree

The University of Tennessee, Knoxville

Barbara Slatten Jared

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DEDICATION

To my husband, Max Jared, who offered his unconditional love and never waning support in the pursuit of this goal.

To my daughter, Julie Beth Jared, who daily reminded me of the truly valuable and important part of life through her child-like faith and warm love.

To my parents, J.C. and Betty Slatten, who instilled in me the belief that anything can be accomplished through hard work, time, and desire.

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"Trust in the Lord with all thine heart; and lean not unto thine own understanding." Proverbs 3:5

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ABSTRACT

THE RELATIONSHIPS AMONG PERCEIVED STRESS, LOCUS OF CONTROL, AND COPING DURING THE THIRD TRIMESTER OF PREGNANCY

Stress is a contributor to obstetrical complications and is related to poor perinatal outcome. Identification of effective coping strategies is vital for the reduction of or alleviation of stress in the promotion of self-care. The individual's sense of control is also related to his or her ability to adapt to stressful situations. The purpose of this study was to determine if a relationship existed among perceived stress, locus of control, and coping in the third trimester of pregnancy.

A convenience sample of thirty pregnant subjects with gestational ages ranging from 28 to 40 weeks was obtained from the Upper Cumberland area of Middle Tennessee. All of the subjects were white with an age range of 18 to 35 years.

The instruments utilized in the data collection were Cohen's Perceived Stress Scale, the Multidimensional Health Locus of Control Scale, the Jalowiec Coping Scale, and a Demographic Survey. Pearson r correlations were utilized to examine the relationships between the variables.

A significant relationship was found between perceived stress and all three subscales of the Multidimensional Health Locus of Control Scale and between perceived stress and affective-oriented coping strategies. Recommendations for nursing practice and future research were offered.

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CHAPTER I

INTRODUCTION

Pregnancy is increasingly recognized as a critical developmental stage (Lederman, 1984) and as a period of developmental crisis (Rubin, 1975). This view of pregnancy implies a process of transition, adaptation, and change which leads to increased stress. The pregnant woman's perception of her ability to influence these changes will impact on her perception of stress. In other words, if the woman believes that she has a measure of control during this period of crisis she will probably experience less stress and greater adaptability to the maternal role.

Overview of the Problem

It is common, regardless of whether a pregnancy is planned or unplanned, for women to be ambivalent regarding the event of pregnancy. This ambivalence waxes and wanes until about the twentieth week of pregnancy which is when the woman first feels the movement of her developing child. The first and second trimesters are a time when the pregnant woman begins to accept, bind into, or attach to the fetus. During the past eighteen years researchers have investigated the concept of binding-in or attachment (Carter-Jessop, 1981; Klaus & Kennell, 1976; Leifer, 1977; Rubin, 1975; and Shereshefsky & Yarrow, 1973) and have demonstrated the importance of maternal-fetal and maternal-child bonding and their influence on maternal adaptation.

During the third trimester a woman begins to perceive the fetus as an individual who will soon exist as a separate person (Bibring, Dwyer, & Valenstein, 1961). Anticipatory socialization in the mothering role begins to formulate during this time (Leifer, 1977; Rubin 1967, 1977). Developing a new identity is integral to becoming a mother and involves rethinking, a redefinition, and a new perception of self. Prenatal attachment enhances post-natal attachment and adaptation (Carter-Jessop, 1981), and some empirical evidence suggests that stress during pregnancy may delay maternal adaptation.

Numerous definitions of stress can be found in the literature. According to Cox (1978), stress is a perceptual phenomenon arising from a comparison between the demand on the person and his ability to cope. Selye (1976) defines stress as a nonspecific response of the body to demands placed upon it. These authors view stress as a response that can be either physiological or psychological; negative or positive.

Stress during pregnancy can also be viewed as impacting clients (a) physiologically, perhaps resulting in gastrointestinal distress and fatigue, or (b) psychologically, resulting in increased anxiety and fear. More important is the idea that stress can be viewed as positive or negative depending on the person's perception of the stress (Neuman, 1982). Stress from negative life events, such as health problems, marital problems, and financial problems has been observed to contribute to emotional disequilibrium and gestational complications (Norbeck & Tilden, 1983).

The third trimester has been identified as the period of greatest

transition during pregnancy (Imlee, 1990). In this study Imlee found that both parents had more concerns regarding how adept they would be as parents. These concerns influenced their perception of their transition to parenthood.

The third trimester of pregnancy is a time of change and emotional turbulence. An increase in negative feelings regarding body changes and a general disenchantment with the pregnancy occurs in the third trimester (Shuzman, 1987). Sherwen (1981) found that women in the third trimester of pregnancy also reported more anxiety provoking dreams and fantasies than nonpregnant or early pregnant women. Feelings of vulnerability and fear for the safety of the unborn child are likewise increased during the third trimester of pregnancy (Sherwen, Scoloveno, & Weingarten, 1991).

A study conducted by Affonso and Mayberry (1990) of 221 pregnant women, 80 of whom were in the third trimester, focused on events women perceive as being stressful. The mean age of the group was 28 years, 77.8% were married, and 58% were Caucasian. Results demonstrated that the mean scores on perceived stress in the third trimester were greater in all areas measured (body image, relationships with significant others, concerns about the other children, and the welfare of the unborn baby), as compared to the mean scores on perceived stress in the first trimester of pregnancy. The authors concluded that the women's stress increased as their pregnancy progressed. This stress was related to negative feelings about their increasing body size, fears regarding the health status of their developing fetus, fears and concerns about their

impending labor and delivery, and concerns regarding their ability to successfully integrate the new baby into the existing family constellation.

Maternal stress during pregnancy and during the neonatal period depletes the mother's capacity to meet her newborn's needs (Cohen, 1976). The mother is often unable to view her infant as a rewarding person to care for, and this inability leads to maladaptation postnatally. Interestingly, the maternal stress experienced is often disproportionate to the stress per se.

Responses to stress are expected to vary with an individual's coping or ability to deal with the stressful event (Lazarus, DeLongis & Folkman, 1985). Coping can be defined as any response to life-strains that assists the individual to prevent or control emotional distress (Pearlin & Schooler, 1978). The individual's ability to respond to life-strains may affect his or her ability to respond to stress.

Numerous factors have been identified which influence an individual's ability to cope. These factors include age, gender, genetic factors, social skills, and cognitive ability. Garmezy and Rutter (1983) state that all of these factors influence the individual's ability to appraise the stressor and to determine a coping strategy.

A paucity of research on coping during pregnancy is available. Mercer (1986), in a study of 294 women, demonstrated that age during pregnancy was related to a more positive view of pregnancy. Three groups of women aged 15 to 19, 20 to 29, and 30 to 42 were studied looking at a variety of variables. When asked what their pregnancies

had been like, the overall responses ranged from terrible (13%); worried and stressful (11%); o.k. (27%); good, happy, excited or ideal (19%); and other (6%). The older the woman, the more positively she viewed her pregnancy. It may be that the teenager is dealing with developmental issues of personal identity formation and has not had time to incorporate cognitively, the bodily changes of puberty, let alone the bodily changes occurring during pregnancy. The older women's feelings toward pregnancy were probably influenced by their more deliberate actions in planning the pregnancy.

A pregnant woman's physical and emotional status can influence her coping ability (Mercer, 1986). The common discomforts of pregnancy experienced by most women such as nausea, vomiting, heartburn, and broad ligament pain may deplete the woman's coping mechanisms and impede adaptation to the pregnancy. The availability of such resources as family support, financial support, and health care may also impact on the ability of the woman to adapt during pregnancy.

Winget and Kapp (1972) suggested that dreams and fantasies may act as adaptive mechanisms to assist the woman in coping with the normal developmental crisis of pregnancy. These authors also view the heightened sensitivity and preoccupation with the unborn child in the third trimester of pregnancy as coping mechanisms which enable the woman to adapt to the transition of the motherhood role.

Another factor associated with a woman's ability to cope during pregnancy is related to her perceptions of control over various life situations such as employment, living arrangements, finances, and

health. A number of researchers (Finlayson & Rourke, 1978; Lewis, Morisky & Flynn, 1978; Rotter, 1966; and Wallston & Wallston, 1978) empirically examined the construct of locus of control (LOC), and eventually Wallston & Wallston expanded Rotter's ideas to view health through the LOC lens.

Locus of control was defined by Rotter (1966) as an individual's belief that his or her behavior may or may not influence rewards or reinforcements. Rotter (1966) described both external and internal control orientations. External LOC was defined as the individual's belief that reinforcement is dependent upon luck, chance or powerful others. Internal LOC was defined as the individual's belief that reinforcement is dependent upon his or her own behavior. Pearlin and Schooler's (1978) definition of sense of mastery is a similar construct. They define sense of mastery as the extent to which an individual regards his or her rewards or outcomes as being controlled by self or by others. This sense of mastery definition has been used in several studies unrelated to pregnancy. However, in a 1986 study by Mercer, May, Ferketich, and DeJoseph the researchers examined sense of mastery, self-esteem, and their relationship to antepartal stress. The results of this study suggest that sense of mastery was negatively related to antepartum stress and that antepartum stress was related to poor perinatal outcomes.

Adequate research into the associations between locus of control, perceived stress, and coping during pregnancy has not been done. In a 1983 study, Norbeck and Tilden suggest that stress contributes to

emotional disequilibrium and gestational complications during pregnancy. Affonso and Mayberry (1990) and Mercer (1986) identified the third trimester as the most stressful period during pregnancy. A review of available research on stress, coping, and locus of control stimulated the postulation that perhaps persons who scored higher on external locus of control (chance or powerful other) would demonstrate increased perceived stress during pregnancy as compared to persons who scored higher on internal locus of control.

Purpose of the Study

The purpose of this study was to determine if a relationship existed between perceived stress, locus of control, and coping during the third trimester of pregnancy.

Theoretical Framework

Orem's Theory of Self-Care

Orem's self-care theory identifies the individual as a self-care agent who is responsible for his or her own health (Orem, 1985). Orem (1985) defines self-care as actions the self-care agent performs to maintain life, health and well-being. Self-care is viewed as a continuous process. The role of the nurse is to enable the individual to maintain self-care by involving the individual in his/her care and to assist with promotion and maintenance of health.

Orem's theory is based on three theoretical constructs. These constructs are self-care, self-care deficit, and nursing systems.

Self-care is a learned behavior related to actions that allow for the functioning and development of the individual. Self-care is influenced by the age, sex, and developmental or health state of the individual.

The theory of self-care deficits identifies the need for nursing due to the limitations that arise which prevent self-care. This theory is related to situations where the care demand exceeds the care abilities of the self-care agent.

Orem's theory of nursing systems deals with the nurse's ability to provide nursing action to regulate the ability of individuals to practice self-care and to correct their self-care deficits. This theory assumes that the nurse is needed when the individual is unable to meet his or her self-care demands. Pregnant women who seek prenatal care, information, and education concerning their pregnancy demonstrate self-care. However, the pregnant woman who does not seek prenatal care and who does not work to attain a safe pregnancy and delivery does not demonstrate self-care.

Orem (1985) has identified three types of self-care requisites for individuals to maintain self-care. These three self-care requisites are universal, developmental and health deviation. The universal self-care requisites are air, water, food, elimination, activity, interaction, prevention, and normalcy. Viewing prenancy in a mode of normalcy, the pregnant woman should be able to attain all eight of these self-care requisites. The nursing system, provided that a thorough history and physical assessment is obtained, should be able to identify the individual who is unable to meet these needs. Interventions by nurses

should include assisting individuals to maintain and continue self-care prenatally with the goal of a safe pregnancy and delivery as ultimate favorable outcomes.

Developmental self-care requisites are divided into two categories. These requisites are promotion of growth and development through the maintenance of supportive living conditions and the provision of care to prevent negative or deleterious conditions that affect growth and development. The ability of the pregnant woman to fulfill these requisites depends on her age, education, and social support (Orem, 1985).

The health deviation self-care requisite comes about when a change in health causes an individual to move from being the self-care agent to the care receiver. To regain self-care the individual must be able to seek help, recognize the effects of the illness, carry out relevant treatment, modify his or her self-concept, and adapt to changing conditions.

In applying Orem's model to nursing care of the pregnant woman four concepts and their interrelationships must be considered. Figure 1 demonstrates these relationships.

Basic Conditioning----------Self-Care Agency-------

Self-Care----------Health Factors.

Figure 1. Health Promotion Model. (Denyes, 1988).

The author of the present study applied this model to pregnant women in the third trimester considering the variables of stress,

locus of control, and coping. Basic conditioning factors were viewed by Orem (1985) as factors that impact on the self-care agency, therapeutic self-care requisites, and self-care. These factors included age, gender, race, sociocultural factors, and health status. All of these factors impact upon pregnancy. For example, age and race have been found to influence perceived stress and coping behaviors, and these should be considered when planning prenatal care.

Self-care agency is the ability to engage in self-care (Orem, 1985). Nursing's responsibility should be to assess the above factors and predict their effect upon the self-care agency. Assessment should include evaluating the pregnant woman's level of stress, her ability to cope, and her particular locus of control and the impact of these variables on the self-care agency.

The self-care agency must be intact in order for self-care to be practiced. Variables such as a higher perceived stress level, a more externally oriented LOC and a more affective-oriented coping behavior may impact on the self-care agency and prevent self-care and eventually adversely affect health.

Orem (1985) defines health as the state of being whole and possessing individual unity. Health encompasses eight universal self-care requisites as identified by Orem (1985). To promote self-care as evidenced by positive pregnancy outcomes, nurses must identify factors (age, parity, economic status) that impact on the self-care agency (such as perceived stress) that may impede promotion of self-care.

In pregnancy the ability of the woman to meet these self-care

requisites may be dependent on her sense of mastery or control, her perceived stress and her ability to cope. All of these concepts are important to the prenatal client because of the continuous physical, psychological, and emotional changes the women undergo during pregnancy. If pregnant women with an external locus of control do demonstrate increased perceived stress and poor coping, nurses may possibly intervene to assist them in regaining and maintaining self-care throughout the pregnancy.

Nominal Definitions

The following nominal definitions guided the study:

1. Locus of control - "refers to individuals' belief about whether or not a contingency relationship exists between their behavior (actions) and their reinforcements (outcomes)" (Shillinger, 1983, p. 58).
2. Internal locus of control - the belief that reinforcement is contingent upon one's own behavior or one's own permanent characteristics (Rotter, 1966).
3. External locus of control - the belief that reinforcement is from chance, fate, powerful others or is unpredictable (Rotter, 1966).
4. Perceived stress - situations in which a person perceives that outside demands exceed their ability to cope.
5. Coping - the behavior that provides protection from psychological harm resulting from problematic social experiences (Pearlin & Schooler, 1978).

Assumptions

1. The instruments used in this study were reliable and valid measures of the constructs.
2. The participants' responses were honest and accurate.

Research Question

What are the relationships among perceived stress, locus of control, and coping during the third trimester of pregnancy?

Subsidiary Questions

1. What is the relationship between perceived stress and locus of control during the third trimester of pregnancy?
2. What is the relationship between coping and perceived stress during the third trimester of pregnancy?

Summary

After recognizing the potential implications related to coping and locus of control during pregnancy and their relationship to perceived stress, promotion of effective coping and self-care could be enhanced. Results of the study should provide guidance to promote psychological and physiological wellness during pregnancy.

CHAPTER II

REVIEW OF LITERATURE

This chapter presents a review of the literature that is related to the concepts of pregnancy, locus of control, perceived stress, and coping. Pregnancy requires that a woman alter her life roles and generates an identity reformation for each of the parents (Rubin, 1975). Change is inevitable and unavoidable throughout the life span but at no time is it more resolute than during pregnancy. Although pregnancy is a self-limited period of time and lasts roughly ten lunar months, a pregnant woman experiences vast change, both physiologically and psychologically. Roles are often renegotiated during this time and revised. Pregnancy is a time of variability for the pregnant woman as well as her family members. Pregnant women's emotions are mercurial and these mood fluctuations impact on the family constellation. This change results in the woman experiencing varying degrees of stress whether it is her first, second, or third child (Colman & Colman, 1975).

Pregnancy is an example of a developmental crisis in which Rubin (1975) has identified four tasks: (1) seeking safe passage for self and baby through pregnancy, labor and delivery, (2) securing acceptance of the baby and herself by significant people in her life; (3) learning to give of self; (4) and binding-in to the unknown baby. Rubin (1984) elaborated upon the fact that a woman's needs were to maintain an intact self and family and incorporate the child into her vision of self and into the family.

The ability to meet the first task is related to a woman's ability to provide self-care. Her perception of being able to control her life-situation and health will influence this task. If she is unable to provide self-care through eating a nutritious diet, taking necessary vitamins, and through maintaining a proper balance of rest and activity this task will be delayed or unmet. The theory of developmental crisis has evolved from the work of Erik Erikson on developmental life stages and Robert Havighurst's work on the theory of developmental tasks. Developmental tasks are the skills, habits, attitudes and behaviors that are learned throughout the life span and are viewed as essential to personal and social adjustment and adaptation (Havighurst, 1953). These developmental tasks evolve throughout the life stages from the neonatal period through maturity. For the purposes of this thesis developmental tasks for two age groups, i.e. the adolescent and the early adult, are identified.

Success at handling the developmental problem or task at each life stage results in enhancing self-concept; but, failure to meet the task results in a negative ego value. As a rule because of the 38 to 40 week time frame of pregnancy, a woman does have time to resolve this developmental crisis and begin to process the maternal role depending on her age and level of maturity.

In meeting the second task of acceptance of the baby and herself, during this period of great change, the woman needs support from significant others. Richardson (1987) recognized that the attitudes of significant others in accepting the coming infant can negatively or

positively affect the mother-child relationship. Norbeck and Anderson (1989), in a study of 190 low-income pregnant women, found social support to be a positive influence in decreasing anxiety in pregnancy. The development of the maternal identity and the completion of maternal tasks are influenced by the quality of the husband-wife relationship (Rubin, 1984).

Learning to give of self is the third task of pregnancy. It has been recognized that assumption of the maternal role is not instinctive but is the result of efforts related to psychosocial, cognitive, and affective elements (Rubin, 1984). Giving of self to the potential child will be a lifelong process that just begins with pregnancy. During the third trimester a woman may feel she has given all her reserves to the unborn child. She depends on support from significant others to meet her psychological needs.

The last task of pregnancy is binding-in to the unknown baby. This task, which is one of attachment to the fetus, evolves and changes throughout the period of pregnancy. During the third trimester the pregnant woman becomes more focused on the impending labor and delivery experience and the well-being of the fetus. This increased focus on the fetus or binding-in contributes to the increased feelings of fear and vulnerability experienced during the third trimester of pregnancy. This, in turn, contributes to increased stress in the third trimester of pregnancy.

Lederman (1984) identified the primary developmental task for the pregnant woman to be identification with a motherhood role. This

identification role is related to the self-acceptance of the pregnancy and to a pregnant woman's relationship with her own mother. Lederman (1984) identified motivation and preparation to be two factors influencing identification with the motherhood role. Motivation is viewed as how much the woman wanted to become pregnant and how much she looks forward to motherhood. Preparation for motherhood is related to available role models and the ability to fantasize about the motherhood role (Lederman, 1984). Another indicator of preparation for the motherhood role is the ability to anticipate future life changes, or the ability to cope with life changes. Therefore, recognizing Lederman's ideas regarding identification with the motherhood role, it becomes clear that an individual's coping abilities are important in determining if a pregnant woman accepts this new role. These coping abilities could be altered and/or hampered if a woman perceives high levels of stress.

Another area of change for the pregnant woman that needs to be considered is the subjective experience of time and space, both physical and social. This change comes about with the formation of the maternal identity and requisite tasks. During the third trimester time and space are occupied with activities of daily living. The increased body size and slow movements imposed by the pregnancy make normal activities tedious. Many pregnant women become irritable during this time due to their slow movements. Shuzman (1987) believes this perception of time and space contributes to the increase in negative feelings related to body image in the third trimester of pregnancy.

Another feeling pregnant women experience is one of time running out

(Rubin, 1984). This sense of fleeting time causes the woman to often frantically increase her activity to prepare for the expected child. Another interpretation involving a sense of time running out is that pregnant women often fear their own death during childbirth. Rubin speculates that this death fear causes women to increase their activity in arranging and rearranging their home to better provide for the family in the event they do not return. A sense of mastery or control over her situation should enable the pregnant woman to pass through this time successfully and to cope effectively with the fear and stress associated with the third trimester of pregnancy.

Pregnancy is a time of preparation. A new personality dimension is developed during pregnancy and delivery. This new dimension becomes inseparable from the whole personality and is referred to as the maternal identity (Rubin, 1984). New identities are developed with each pregnancy the woman experiences.

Replication or mimicry plays a role in the development of the maternal identity. Rubin (1967) states that pregnant women copy practices of other women. The pregnant woman searches for a model to follow. The woman's mother is the strongest model, and contact with the mother usually increases during pregnancy.

Role play is another form of replication. Through role playing the pregnant woman tries out the maternal role by babysitting for friends or spending time with babies. She may even involve her mate in this activity. The response a pregnant woman receives from children and others during the play behavior influences her perception of her ability

as a mother (Rubin, 1967). Replication acts as a preliminary binding-in of the unborn fetus to the maternal identity.

Fantasy is another aspect of the developing maternal identity. Fantasies during pregnancy are usually of the unborn child. These fantasies provide an important aspect in the binding-in task of pregnancy. Sherwen (1981) found fantasies and dreams increase during the third trimester of pregnancy and generally relate to the infant and the upcoming labor and delivery. Through this kind of rehearsal a pregnant woman works through her fears. If she is able to discuss these fears with a supportive person her anxiety can be allayed.

Pregnancy is also influenced by the activities of the pregnant woman. Many women continue to work during pregnancy and may perceive different needs and incur more or less stress than women who do not work during pregnancy. Brown (1987) studied 313 pregnant women with fifty percent of these women being employed at the time of the study. The mean age of the sample was 24.8 years. The Support Behaviors Inventory (SBI) was used to measure social support, the Health Responses Scale (HRS) measured physical symptoms and well-being, and the Employment Inventory assessed employment status and future work plans. Results demonstrated that employed pregnant women perceived themselves to be healthier but also more stressed as measured by the Health Response Scale. Unemployed women expressed more fear and sadness. Women planning to return to work after delivery expressed fewer complaints of common symptoms related to pregnancy (Brown, 1987).

Perceived Stress

The third trimester of pregnancy has been found to be the time of greatest transition during pregnancy (Imlee, 1990). This passage from one state or condition to another is a time of increased stress and increased energy demand and is a period of crisis for some pregnant women.

Cannon (1932) first identified the body's response to stress in the "fight or flight" phenomena which prepared the body to respond to or flee the stressor. Selye conducted further research in the area of the body's response to stress. Selye viewed stress as the nonspecific response of the body to demands placed upon it, and concluded that the body reacts the same physiologically whether the stress be perceived as good (new job) or bad (fired from job) (Selye, 1977). These responses to stress involve the nervous, the endocrine, and the immunologic systems, and lead to an effect on the entire body. Selye (1977) identified a three stage general adaptation syndrome. The first response was called the alarm reaction stage and incorporated the "fight or flight" reaction. The second response was called adaptation or resistance, a transition phase, which relieved the person of the acute alarm phase. If the stress is not resolved during the second stage, the third stage of exhaustion and death ensues.

Many researchers have identified stress as being connected to physical and mental illness in some situations. It is believed that as much as sixty billion dollars per year is lost as a result of stress-induced physical illness, and another seventeen billion due to stress-

induced mental illness (Hughes, Pearsons, & Reinhart, 1984). Engle, as early as 1955, associated stress with physical illnesses such as ulclerative colitis.

Because the body reacts physiologically in similar ways to stress, whether it be positive or negative, perceptions of stress and stressful situations must play an important role in responses to stress and the development of illness related to stress. Lazarus (1966) postulated that the physiological and psychological impact of stressful events was influenced by a person's perceptions of the stressful event. He stated that people were negatively affected by stress only if they perceived themselves to be in a demanding situation without the resources with which to act on the demand.

Pregnancy has been viewed as a time of stress by numerous researchers (Affonso & Mayberry, 1990; Brown, 1986; Imlee, 1990; Mercer et al., 1986). Norbeck and Tilden (1983) conducted a study looking at stress and social support in the second and third trimesters of pregnancy in a middle class population. The tools used in the study were the Life Events Questionnaire and the Norbeck Social Support Questionnaire. The mean age of the subjects was 26.2 years. The researchers found that higher life stress and emotional disequilibrium were positively related to the rate of complications during pregnancy.

A study building on the work of Norbeck & Tilden (1983) was conducted using a low-income population (Norbeck & Anderson, 1989). The researchers' purpose was to determine if earlier findings regarding the impact of stress and social support on pregnancy outcomes were

predictive of pregnancy outcomes in low-income women especially in light of the fact that low birth weights have been shown to increase as family income decreases (Gould & Leroy, 1988). The sample consisted of 208 low-income women between the ages of 18 and 39 years. Ethnic composition of the sample was 28% black, 35% white, and 37% Hispanic. Blacks (15.2) were found to have a higher mean score on life stress, followed by whites (14.8) and Hispanics (7.2). Life stress was found to be related to increased complications during pregnancy in the black population studied. However, life stress was negatively related to pregnancy complications in the white population. This study using low-income women did not support earlier work by Norbeck and Tilden (1983) who studied white, middle-class women.

Norbeck and Anderson (1989) conducted another study in low-income women looking at stress, social support, and anxiety in mid and late pregnancy. The sample consisted of 190 white (36%), black (27%), and Hispanic (37%) women with a mean age of 24.4 years. The subjects were tested during the second trimester and again during the third trimester of pregnancy. The results demonstrated that high stress was positively related to anxiety scores and that these scores were stable from the second to the third trimester of pregnancy. Results also demonstrated a positive relationship within the combination of high social support and low stress with low anxiety scores in both the second and third trimesters of pregnancy.

A study of 313 expectant couples, with the mean age of women being 24.8 years, was conducted to determine if a relationship existed between

social support, stress and health in pregnancy (Brown, 1986). The Stress Amount Checklist (SAC), a tool used to measure stress commonly occurring in pregnancy (i.e. marital problems and financial strains), was utilized in this study. The researcher concluded that stress had a greater influence on the health of pregnant women than did social support. The results of this research suggest that stress might be important in influencing health in pregnancy and that support might possibly be a mediating force in providing a certain balance that could ameliorate the effects of stress (Brown, 1986). This study indicated that stress was an important variable in relation to health during pregnancy, and that stress was a variable to be considered in the assessment of pregnant women.

It is a common belief among obstetrical and gynecological health care providers that multiparous women have easier obstetrical experiences than primaparous women. Two hundred and forty-nine women were interviewed in a study in regard to preparation and childbirth experience (118 primaparous and 131 multiparous). The researchers demonstrated that multiparas had more physical discomfort, but less anxiety during pregnancy. They experienced more anxiety in relation to pending labor, but they attended childbirth preparation classes less often than first time mothers. Half of the multiparas and two-thirds of the primaparas had serious worries during pregnancy. Multiparas had more anxiety related to impending labor than primaparas. One could speculate that women who had already experienced one labor and delivery cannot so easily ignore any fears or anxieties that they may have.

Primaparas may have so many immediate worries and fears that they refused to look ahead to labor and buried their anxiety.

Family members and friends are especially important to the pregnant woman. She begins to depend on them in different ways during pregnancy. The importance of friends and significant others is demonstrated by her concerns should she lose them. Yamamoto and Kenny (1976) identified stressful life events from checklists that women responded to in the third trimester. Women identified themes of the loss of significant others as the most critical to their well-being.

Several researchers have related prenatal stress and anxiety to poor pregnancy outcomes such as prematurity, hypertension, abruptio placenta, etc. (Crandon, 1979; Istvan, 1986; Norbeck & Tilden, 1983; Stanley, Soule & Copans, 1979). In another study by Allen and Mantz (1981) early intervention to reduce or alleviate stress was associated with better pregnancy outcomes. These authors found women who were identified with high stress prior to thirty-six weeks gestation initiated more positive changes toward stress reduction. These findings indicate a need for early assessment and intervention in the area of stress reduction.

In a 1984 study by Fink and Windt stress in the antepartum and the postpartum periods were examined. These authors found a relationship between increased stress in the prenatal period and postpartum depression. These findings suggest that the effects of antepartum stress carry over into the period following birth and could create further problems during this time.

As stated earlier, the third trimester was found to be the period of greatest stress during pregnancy (Fink & Windt, 1984; Imlee, 1990; Mercer et al., 1986). Several authors have supported this idea by identifying various stress producing factors during this trimester, such as fear of pain during childbirth, financial difficulties, family relationships, fear for the welfare of the unborn child (Glazer, 1980); loss of job or career (Fink & Windt, 1984); and previous loss of a fetus (Carlson & Labarba, 1979).

Mercer and Ferdetich (1988) recognized that some stress accompanies every pregnancy. Whether a stimulus acts as a stressor for a particular individual depends on whether the person perceives the stimulus as a stress (Ellis & Nowlis, 1981). With Norbeck's et al. (1983) observation that stress from negative life events contributes to emotional disequilibrium and gestational complications in pregnancy, it would be advantageous to identify a person's level of perceived stress in pregnancy, as well as the variables relating to the perceived stress. Two important variables considered in the present study were coping and locus of control.

Coping

Coping was defined in an early paper by Lazarus (1966) as "... direct action tendencies aimed at eliminating or minimizing a stressful event." Coping was more recently conceptualized as constantly changing efforts, both cognitive and behavioral, to control or manage external and/or internal stressors that are perceived as greater than the

individual's resources (Lazarus & Folkman, 1984). These researchers conceptualized coping as a transactional process. In this conceptualization of coping the emphasis is on the relationship and interaction between the environment and the individual. Coping is seen as ongoing with the stressors continuously being appraised and coping modified.

Pearlin and Schooler (1978) defined coping as the things individuals do to avoid being harmed by life-strains. Coping is a particular behavior that provides protection from harm by society and social experiences. Coping is a mediator between society and the individual (Pearlin & Schooler, 1978). Coping can be conceptualized as any response to external life-strains that assists with prevention or control of emotional distress. These researchers view coping as being inseparable from every day life-strains and a person's inner emotional life. They separate coping into three functions: 1) responses that change the situation; 2) responses that control the meaning of the strain after it occurs but before the emergence of stress; 3) and responses that function for control of stress after it has emerged. The first function deals with a direct means of coping to modify or eliminate the stress. An example might be a pregnant woman who has no insurance. The nurse assists the woman in investigating options for insurance or Medicaid. The second function deals with the way the stress is recognized and how it is perceived by the individual. Again, the pregnant woman without insurance may be a situation perceived by some as minor but as catastrophic by others. The nurse's assessment of the woman's responses

are vital for the development of interventions to assist the pregnant woman. The third function is concerned with the management of stress to prevent the individual from being overwhelmed. An example of this would be the pregnant woman learning of a twin pregnancy. The nurse can problem solve with the patient and together they can plan strategies that may assist the woman in dealing with the stress and may prevent the woman from being overwhelmed with anxiety.

Coping has been conceptualized by others as a trait or style. For example, coping patterns of Type A personalities have been associated with increased cardiovascular disease (Rhodewalt & Davison, 1983). However, the idea of coping as a trait has been rejected by others due to the fact that this notion of coping assumes that all individuals use the same coping behaviors in the face of similar stressful situations (Folkman & Lazarus, 1980).

Numerous factors have been identified that influence an individual's ability to cope. These include age, gender, genetic factors, temperament, social skills, and cognitive ability. Garmezy and Rutter (1983) believe all of these factors assist the individual to appraise the stress and determine coping strategies.

The ability of the woman to cope with stress may also affect pregnancy outcome and fetal health. Obaywana (1984) found women who were unable to effectively cope with stress to have a higher number of negative pregnancy outcomes.

The ability or the perceived ability of the individual to respond to stress or cope may influence their ability to prevent illness and

promote health. Kobasa (1979) stated that the ability to change stress into a nonstressful form through coping promotes individual hardiness. Pearlin and Schooler (1978) concluded that the more coping responses and the more resources an individual possesses decreases the chances of emotional stress. The manner in which an individual deals with or fails to deal with problems influences their well-being. Other research hypothesizes that excessive stress and the inability to cope are major factors related to poor mental and physical well-being (Basch & Kersch, 1986).

Coping is associated with adaptation, but can also be associated with maladaptation. The result is dependent upon the type of coping processes that are utilized by the individual. The ability to identify and measure the effectiveness of coping strategies has been problematic. Jalowiec and Powers (1981), in developing the Jalowiec Coping Scale, classified coping into three different behaviors: 1) problem-oriented, affective-oriented; 3) or having some components of both. The problem-oriented coping strategies deal with the strategies that attempt to directly handle the stress. The affective-oriented coping strategies deal with the emotions that are a result of the stress. Finally, when individuals have a style that combines both behaviors the classification should be made by the predominant mode of coping that is utilized. This scale was developed to measure the stable aspects of coping behaviors (Jalowiec & Powers, 1981).

Lazarus, Averill, and Opton (1974) stated that increased perceived stress is associated with increased usage of emotion-oriented coping. In a study by Yarcheski and Mahon (1986) affective-oriented coping was

positively associated with both perceived stress and symptom patterns. The sample for the study was 136 adolescents with a mean age of 12.9 years. The sample was comprised of 52% females and 48% males. This study supports the idea that the more affective-oriented coping is utilized the greater the symptoms of psychological distress. This study also upheld the belief by Lazarus et al. (1974) that the higher the perceived stress the higher use of affective-oriented coping (Yarcheski & Mahon, 1986).

In a study comparing stress and coping in hypertensive and emergency room patients, Jalowiec and Powers (1981) found emergency room patients to report more stressful events, but the hypertensives reported more coping methods. No variation in coping behaviors was found between male and female subjects. Higher scores on the coping scale were associated with higher perceived stress (Jalowiec & Power, 1980).

In contrast, a study of 35 dialysis patients with a mean age of 42.2 years found no relationship between stress and coping (Baldree, Murphy, & Powers, 1982). The hemodialysis patients were found to score higher on problem-oriented coping methods. The difference in the two studies could be related to such factors as length of illness and relationship to care providers.

Christman et al. (1988) found that patients who experience high levels of distress use more emotion oriented coping strategies. This study of 70 subjects, with a mean age of 58 years found increasing age to be related to a more infrequent use of emotion related coping behaviors.

This study supports the work by Lazarus et al. (1974) relating high stress with emotion-oriented coping behaviors.

Call and Davis (1989) related coping to hardiness in chronically ill subjects. The study consisted of 22 hardy and 22 nonhardy subjects as determined by a score on the Health-Related Hardiness Scale developed by Pollock (1986). The study found hardy subjects utilized coping strategies that were directed toward problem-solving. In comparing this study with previous research, it is postulated that hardy subjects perceive less stress than nonhardy subjects because hardy subjects appear to exhibit more problem-oriented coping behaviors.

Recent research conducted by Meleis et al. (1989) studied stress and coping in women who work. The study consisted of 87 subjects between the age of 22 and 57 with a mean age of 37. All of the women had children at home and were employed in clerical positions. Results of the study suggested that a majority of the subjects (56%) utilized problem-solving coping strategies. This study differs from the findings by Folkman and Lazarus (1980) who found that women tend to utilize more emotion focused coping strategies.

An increase in dreams and fantasies was identified as a normal phenomenon during the third trimester of pregnancy (Mercer, 1979; Sherwen, 1981). In a 1972 study, Winget and Kapp suggest that dreams and fantasies act as an adaptive mechanism for coping. This study looked at the content of dreams and their relationship to the pregnancy. Women who have dreams with an anxiety provoking or threatening context were found to have a shorter duration of labor. Therefore, the dreams

were viewed as a means of enabling women to adapt and adjust during the labor and delivery period. This study was in contrast to a study conducted by Gillman (1968) who was unable to find a significant relationship between the contents of dreams in pregnancy and maternal adaptation.

Leifer (1977) related the binding-in process or preoccupation with the unborn fetus in the third trimester to maternal adaptation. Leifer found a preoccupation with the fetus carried over into the first two months after delivery. This exaggerated focus was viewed as a coping mechanism which allowed the new mother to adapt to the constant demands of a newborn.

Individuals cope with stressful situations with various methods whether these methods be beneficial or harmful. Use of substances such as tobacco and alcohol may represent attempts by some individuals to cope with stressful situations. Smoking during pregnancy increases the likelihood of infant morbidity and perinatal mortality (Kleinman & Kopstein, 1987). Smoking 10 to 20 cigarettes per day is associated with 10% of preterm deliveries (Guzick, Daikoku and Kaltreider, 1984). An assessment of a pregnant woman's smoking habits and impetus for smoking is essential if health promotion is to be achieved. If smoking is a means of coping for some women, the nurse should intervene and investigate alternate avenues of coping for these women during pregnancy.

Consumption of alcohol is also a coping behavior of some individuals in response to stress. Alcohol has likewise been associated with fetal anomalies and growth retardation (Abel, 1981). Early

detection and intervention could prevent fetal anomalies, preterm labor, and growth retardation. Inability to complete the tasks of pregnancy could compromise successful completion of the pregnancy. Increased stress, an individual pregnant woman's perceptions of stress and lack of ability to cope may contribute to altered performance in meeting the tasks of pregnancy.

Another factor associated with an individual's ability to cope is related to women's perceptions of their control over their life situations. White (1973) defined coping as being similar to other concepts such as mastery, defense, and adaptation. The association of a sense of mastery with coping supports the association between coping and locus of control. Mastery relates to the extent that a person regards themselves as being under ones's own control or the control of others. Those individuals with an internal locus of control perceive that they have control over life situations and demonstrate more effective coping strategies. Those individuals who lack a sense of mastery, or external locus of control, may feel hopeless and less able to deal with stressful situations (Rutter, 1981). Therefore, determining an individual's locus of control can provide valuable information in assessing perceived stress and coping and in determining its relation to the self-care agency.

Locus of Control

Locus of control (LOC) grew out of Rotter's (1966) social learning theory. Rotter (1966) defines LOC as a generalized expectancy that obtaining reinforcement depends primarily on one's own efforts (internal

control) or a generalized expectancy that reinforcements are received on a random basis or dispensed by powerful others (external control). Rotter found that those individuals who possessed an internal LOC were more alert to information that could be used to modify future behavior, took more measures to improve their environment, placed greater value on self-ability, and were more resistant to influence.

The LOC construct represents a continuum of the internal and the external and is not purely external or purely internal. Individuals have a choice of behaviors and must consider their actions and outcomes. (Lewis, Morisky, & Flynn, 1978). The concept of LOC implies that the individual must assess the situation and use past experiences in making decisions.

Research utilizing LOC as a predictor of behavior has been very prolific. A study of the relationship between LOC and perceived adjustment to critical life events found external scorers reporting more difficult adjustment than internal scorers. The sample for this study consisted of 164 male and female university students (Kilman, Laval, & Wanlass, 1978).

Finlayson and Rourke (1978) conducted a study examining locus of control and rehabilitation in a sample of hemiplegic subjects (N = 21), normal control subjects (N = 12), and medical control subjects (N = 12). The results found internal scorers demonstrating more motivation for rehabilitation than external scorers. This study implies that those who are more internally oriented are more oriented to self-care and

wellness. However, results of this study must be viewed with caution due to the small sample size.

Shillinger (1983) stated that the utilization of LOC in nursing practice increases the nurse's ability to predict health behaviors of clients. Based on the assumption that LOC is a fairly stable factor that is developed over time and is learned through social experiences, appropriate interventions promoting health and prevention of illness can be instituted based on each individual's LOC. The introduction of new experiences to an individual can alter previous patterns of success and failure and LOC can be changed (Arakelian, 1980).

Identifying the relationship between locus of control and health prevention behaviors could assist in the development of valuable nursing interventions in the promotion of self-care and health. Zindler-Wernet and Weiss (1987) hypothesized that chance locus of control was more predictive of health and health preventive behaviors than internal locus of control. Their sample of 123 employees of a university were were predominantly female (67%) with mean age of 38 years. The subjects who reported participation in preventive health behaviors scored lower on both the chance and powerful other subscale of the MHLC scale than those subjects who reported no participation in preventive health behaviors. The researchers suggested no differences between the groups for internal locus of control. These findings are in contrast to earlier findings by Kilman et al. (1978) and Finalyson and Rourke (1978) who described internal scores as being more predictive of health behaviors. Similar results were found by Brown et al. (1983) in a study of a church group

of 63 subjects who were predominantly women (75%). Chance health locus of control was found to be negatively related to health promotion activities.

Locus of control and its relationship to health promotion in women was studied by Duffy (1988). The researcher obtained a sample of 262 midlife women (age 35-65 years) with a mean age of 45.5 years. The majority of the women were white (93%) and had completed college (80%). The researchers reported that those women who scored high on internal LOC, low on chance LOC, and high on self-esteem had high scores on self-actualization, exercise, nutrition, and interpersonal support subscales. These results support the belief that perceptions of locus of control, self-esteem, and health status influence health promoting behaviors and self-care activities.

Duffy (1989) also studied locus of control in relation to self-reported health status of employed women. The sample consisted of 420 women between the ages of 21 and 65 years with a mean age of 40.1 years. The median annual household income was $35,000. The results demonstrated that those women who rated their health status as good had high scores on internal LOC, self-actualization, and exercise and low scores on chance LOC. The results of this study cannot be generalized to the general population due to the sample being mostly white (90%), college educated (79%) and financially privileged ($35,000). However, these results are supportive of previous findings that reported that locus of control is related to health beliefs and perceived health status.

Redeker (1989) applied the construct of locus of control to the practice of breast self-examination and health beliefs in women. A sample of 48 women with an age range of 26-44 years was utilized. The researcher found internal LOC and health beliefs accounted for 18% of the variance between the practitioners and nonpractitioners of breast self-exams. This research is comparable to a similar study conducted by Hallal (1982) with self-breast examination in women.

Health promotion and prevention of illness are concepts needed for the completion of a safe pregnancy. Assessment of the abilities and tendencies of pregnant women to practice self-care is essential to the practice of obstetrical nursing. Research utilizing the construct of LOC and its relationship to pregnancy is needed. Research conducted by LeWallen (1989) examined the relationship between health beliefs (including LOC) and health practices in pregnancy. This sample consisted of 51 pregnant women in a childbirth education class in the southeastern United States. A significant relationship was found between high internal scores and high scores on the Personal Health Inventory which reported the number of health-promoting behaviors. This study suggested that LOC affects the practice of self-care activities in pregnancy.

Mercer et al. (1986) has related health status in pregnancy with antepartum stress and a sense of mastery (SOM). Antepartum stress was correlated with poor perinatal outcomes. SOM is defined as "the extent to which one's life chances are regarded to be under one's own control as opposed to being fatalistically ruled" (Pearlin & Schooler, 1978). Mercer et al. (1986) postulated that self-esteem plays an

essential role in influencing a person's SOM or control. The combination of self-esteem, antepartum stress and sense of mastery were found to have a direct impact on health status during pregnancy (Mercer, et al., 1986).

There is a possibility that relating LOC, coping, and perceived stress in pregnancy may suggest an increased level of perceived stress in persons with an external or powerful other LOC. Furthermore, these findings may assist professionals in formulating care plans for pregnant clients. Women with an internal LOC may benefit more from interventions that promote self-care; whereas, women with an external LOC may need more direct methods of nursing intervention.

In research conducted by Willmuth, Weaver, and Borenstein (1978), the relationship between locus of control and childbirth satisfaciton and between locus of control and prepared childbirth were examined. A sample of 450 women was obtained. Subjects completed Rotter's Internal-External Scale and a postpartum questionnaire. The researchers found internal locus of control to be positively related to childbirth satisfaction and also demonstrated that those women who attended childbirth classes were more internally oriented than women who did not attend these classes. It can be speculated that since preparation for childbirth education classes directly affects childbirth satisfaction depending upon a person's locus of control, it would be helpful to determine a client's locus of control early in the prenatal period.

Summary

In summary the review of the literature provides information concerning stress and locus of control during pregnancy. A paucity of literature on coping during pregnancy was found. More importantly the relationship among perceived stress, locus of control and coping has not been established. A goal for the present study was to determine if a relationship among these variables existd in a specific time of pregnancy, the third trimester.

CHAPTER III

METHODOLOGY

The design of the study and the subjects and procedures are discussed in this chapter. A detailed description of the instruments used in the study is also provided.

Research Design

In this descriptive study, data were obtained by a convenience sampling method at one point in time. Subjects were pregnant women (ages 18-35) who were receiving prenatal care in Putnam County, Tennessee with a gestational age ranging from twenty-eight to forty weeks. The women received prenatal care from private obstetricians. The data were collected in the Fall of 1990 and the Spring of 1991. The variables examined in this study were perceived stress, locus of control and coping.

Subjects

Categorical demographic characteristics of the sample are presented in Table 1. The subjects were thirty pregnant women in the third trimester of pregnancy. All of the subjects (100%) were white. Of the thirty subjects, seventeen (57%) were multiparous with the mean number of pregnancies being 1.8.

Of the thirty subjects, twenty-one (70%) completed a high school equivalent (43%) or greater (27%) level of education. Twenty-two (64%)

were employed with an equal number employed part time (37%) and full time (37%). A majority of the subjects were married (66%) with an equal number being either never married (17%) or separated/divorced (17%).

Of the thirty subjects, eight (27%) continued to smoke during pregnancy. All (100%) of the subjects denied alcohol use.

Numeric demographic variables of the sample are presented in Table 2. The ages of the thirty subjects ranged from 18 to 35 years with a mean age of 23.8 years. The mean annual household income was $15035.71. Fifteen (50%) of the subjects fell below the poverty line as established by Medicaid guidelines. The gestational age ranged from 28-40 weeks with a mean gestational age of 34.3 weeks.

The sample (N = 30) was taken from a university town in the Upper Cumberland Area of Tennessee. This area had a population of 25,000.

Table 1. Percentage Distribution of Categorical Demographic Variables for a Sample of 30 Pregnant Women.

Variable	N	Percentage
Marital Status:		
Never married	5	17%
Married	20	66%
Separated/Divorced	5	17%
Parity:		
Nulliparous	13	43%
Multiparous	17	57%
Race:		
White	30	100%
Education:		
Did not graduate high school	9	30%
High school graduate/GED	13	43%
Technical/Vocational School	5	17%
BS/BA College Graduate	1	3%
MS/MA Degree	2	7%
Employment Status:		
Unemployed	8	26%
Employed full-time	11	37%
Employed part-time	11	37%
Substance Use:		
Smokers	8	27%
Nonsmokers	22	73%
Alcohol	0	0%

Table 2. Distribution of Numeric Demographic Variables for a Sample of 30 Pregnant Women.

Variable	Mean	SD	Range
Age:	23.8	4.73	18 - 35
Income:	14,033.33	12,540.92	3,000 - 60,000
Number of Pregnancies:	1.8	.847	1 - 4
Gestation: (weeks)	34.3	3.54	28 - 40

Income N=28 due to the deletion of 2 subjects answering 0 income.

Procedures

Permission to conduct this study was obtained from the University of Tennessee, Knoxville College of Nursing Human Subjects Committee and the University of Tennessee Institutional Review Board. The researcher obtained permission from the subjects (Appendix A) and their physicians (Appendix B is a form letter). After receiving consent from each physician and subject, a questionnaire (Appendix C) consisting of demographic data, locus of control, coping, and perceived stress scales was given to the subjects. The data were collected over a three month period until a sample size of thirty was obtained.

Operational Definitions

1) Internal health locus of control was operationalized as the subjects score on the IHLC subscale of the Multidimensional Health Locus of

Control Scale.

2) Chance health locus of control was operationalized as the subjects score on the CHLC subscale of the Multidimensional Health Locus of Control Scale.

3) Powerful other health locus of control was operationalized as the subjects score on the PHLC subscale of the Multidimensional Health Locus of Control Scale.

4) Perceived stress was operationalized as the subjects score on the Perceived Stress Scale.

5) Affective-oriented coping was operationalized as the subjects score on the A-O subscale of the Jalowiec Coping Scale.

6) Problem-oriented coping was operationalized as the subjects score on the P-O subscale of the Jalowiec Coping Scale.

Instruments

Four different instruments were combined into a questionnaire format. The first page of the questionnaire consisted of a survey of demographic data. This was followed by the Perceived Stress Scale, the Multidimensional Health Locus of Control Scale, and the Jalowiec Coping Scale.

Demographic Survey

The Demographic Survey instrument was developed by the researcher. (See Appendix C) Basic demographic information was assessed including age, marital status, education, employment, race, substance use and gestational age.

Perceived Stress Scale

Cohen's (1983) Perceived Stress Scale measures a global level of perceived stress. The Perceived Stress Scale measures the degree of overall appraised stress, and not reactions to individual events (Cohen et al., 1983). Previous studies have been conducted attempting to measure global perceived stress based on reactions to individual events (Sarason, Johnson, & Siegel, 1978). Investigating "perceived stress" is believed to be a better predictor of psychologic symptoms, physical symptoms, and health behaviors than other scales such as the Hassles Scale (Dohrenwend and Shrout, 1985).

The Perceived Stress Scale was first used in two groups of college students and a smoking cessation group. The results of this scale were compared with results from the Hassles Scale and the Unpleasant Events Scale which was used with the same subjects (Lewinsohn & Talkington, 1979). The Perceived Stress Scale was found to be a better predictor of health-related outcomes than either of the two aforementioned life scales (Cohen et al. 1983). Other indicators that the Perceived Stress Scale is more predictive of health related outcomes is that it is sensitive to chronic stress, stress related to expectations, and current levels of stress (Cohen et al. 1983).

In the current study Cohen's et al. (1983) Perceived Stress Scale was used to measure the perceived stress of a group of thirty pregnant women. The PSS is a 14-item questionnaire designed to measure an individual's perception of predictability, control, and manageability of

life. One score is provided by this instrument. The score on the PSS is derived by reversing the scores on seven positive items and then summing across all fourteen items. The possible range of scores is 0-56.

Test-retest reliability of the PSS was .85 when given to eighty-two college students on two occasions separated by two days. After a separation of six weeks the test-retest reliability was .55 with sixty-four subjects (Cohen et al. 1983). These findings support the position that correlations are higher for short retest intervals. The internal consistency coefficient alphas for the above samples were .84 (sample 1 of 82 students), .85 (sample 2 of college students), and .86 (smoking-cessation sample).

Convergent validity studies for this instrument were done with Life Event scores. Cohen (1983) found PSS to be a better indicator of health outcomes than the Life Event scores. Also, those subjects who reported increased social anxiety on the Life Event scores also reported increased PSS (.37 and .48).

The readability of the tool is based on a junior high school level (Cohen, 1986). The time required to administer the instrument is approximately ten minutes. The instrument is hand scored and a copy can be found in Appendix D.

Multidimensional Health Locus of Control

The Internal-External Scale developed by Rotter (1966) has been widely utilized. From this scale evolved the Health Locus of Control Scale (HLC) (Wallston, Wallston, Kaplan & Maides, 1976). This tool was developed under the assumption that a health related LOC scale would be

a more sensitive predictor of the relationship between LOC and health behaviors. This scale was designed to give a single score to indicate the LOC.

Wallston and Wallston (1978) subsequently developed the multidimensional Health Locus of Control Scale (MHLC). This tool was developed to study multidimensional areas of LOC. Previous identification of three dimensions of LOC by Levenson 1974) assisted Wallston and Wallston (1978) in their development of the MHLC. This tool obtains scores on three separate dimensions. These dimensions are internal health LOC, powerful other health LOC, and chance health LOC (Wallston & Wallston, 1978). Internal health LOC was viewed as the individual's belief that his or her health is a result of their own behavior. Chance health LOC was viewed as the individual's belief that his or her health was controlled by chance or fate. Powerful other health LOC was identified as an individual's belief that his or her health was controlled by doctors, nurses, and other persons perceived as being in control.

Wallston and Wallston's (1978) Multidimensional Health Locus of Control (MHLC) was developed based on a belief that the sources of control of health-related behaviors are internal (IHLC), chance (CHLC), or powerful others (PHLC). Originally, two forms (Form A & B) were used in the development of the MHLC. Form A was utilized in this study.

Three scores are provided by this instrument. The IHLC subscale assesses internality and the PHLC and CHLC subscales assess separate aspects of externality. Each scale has six items and the score on

each subscale is the sum of the values circled for each item in that subscale. The possible score range for each subscale is 6-36.

Test-retest reliability ranged from .38 to .77 on the three subscales (internal, chance, powerful others) with Form A and B. Winefield's (1982) study of medical and dental students using the MHLC showed a reliability of IHLC, .58; CHLC, .10; and PHLC, .76 over a seven month period. Wallston and Wallston (1982) examined internal consistency with alpha reliabilities on both Form A and B in their research with college students (N = 112) of .83 (IHLC), .77 (CHLC), and .77 (PHLC).

Concurrent validity was ascertained through correlation of the MHLC with Levenson's (1974) scales. Levenson's locus of control scales of internal (I), chance (C), and powerful others (P) were found to correlate with subscales of the MHLC (Wallston & Wallston, 1978). This correlation was IHLC .567 with I; PHLC .275 with P; and CHLC .799 with C (Wallston & Wallston, 1978). Validity was also supported by Wallston and Wallston's (1982) study at a health fair where subjects voluntarily seeking health information scored higher on IHLC and lower on CHLC than a regular adult population.

The readability of this instrument is based on an eighth grade reading level (Wallston & Wallston, 1978). The time required to complete the scale is approximately ten minutes. The instrument is hand scored and a copy can be found in Appendix E.

Jalowiec Coping Scale

The Jalowiec Coping Scale (JCS) developed by Jalowiec (1981) was used to measure the use of coping behaviors in pregnant women (N = 30) in their third trimester. This instrument is a scale of forty coping behaviors rated on a one to five scale to indicate the degree to which the behaviors are utilized (Jalowiec, Murphy & Powers, 1984). This tool assesses general coping behavior and situation specific coping such as problem-oriented and affective-oriented coping. Fifteen of the coping strategies are considered to be problem-oriented and twenty-five are affective-oriented coping strategies (Jalowiec et al. 1984).

Three different scores can be obtained upon use of this instrument. A degree-of-use rating for each coping item is summed for an overall coping score. The problem-oriented items and the affective-oriented items are also summed separately for subscale scores. The possible range of scores is 40-200 overall, 15-75 on problem oriented items, and 25-125 on affective-oriented items.

Test-retest reliability is .79 for total coping scores, .85 for problem-oriented scores, and .86 for affective scores in a sample of twenty-eight subjects from a general population after a two week interval (Jalowiec et al. 1984). In a sample of 30 subjects with a one month retest interval the reliability of .78 for total scores, .84 for problem-oriented scores, and .83 for affective scores was obtained. The internal consistency coefficient alpha for a sample of dialysis patients (N = 141) was .86 (Baldree, Murphy & Powers, 1982). A copy of the tool can be found in Appendix F.

Analysis

Descriptive statistics were utilized for the variables of age, marital status, gestation, parity and income. Correlations between perceived stress and locus of control (IHLC, CHLC, PHLC), and between perceived stress and coping (affective and problem-oriented) were examined using the Pearson Product Moment Correlation Coefficient (Pearson r). Results and discussion are presented in Chapter IV.

CHAPTER IV

RESULTS

The research findings are presented in this chapter. Subjects' scores on stress, LOC, and coping are compared with previous research. Results of analyses conducted to answer the research questions are presented next.

Descriptive Analysis

Table 3 presents the means, standard deviations, skewness, and range of scores for each of the numeric variables in this study. The number of subjects for each variable was thirty (N=30).

Table 3. Means, Standard Deviation, Skewness, and Minimal and Maximal Scores for Variables.

Variable	$\bar{X}$	S.D.	Skewness	Range
PSS	35.6	6.65	0.8112	0 - 56
IHLC	24.3	4.11	0.0025	6 - 36
CHLC	23.1	5.75	0.7002	6 - 36
PHLC	23	7.11	0.5522	6 - 36
A-O Coping	69.3	10.54	0.0882	40 -200
P-O Coping	43.7	10.70	0.2222	15 - 75

There was relatively normal distribution for all the variables. Skewness was found to be less than one (1) on all variables and the researcher proceeded with the correlation analysis of the data.

Comparison of Stress, LOC, and Coping Scores With Previous Research

Perceived Stress

The results of the Perceived Stress Scale (PSS) for the present sample were compared with three previous studies utilizing the PSS with females of similar age. The mean PSS score (35.6) for the present sample was higher than the mean scores (23.57 and 25.71) on the PSS obtained by Cohen et al. (1983) in two studies of college female students (N = 209 and 60). The mean of the present sample is likewise greater than the mean PSS score (25.77) of a sample of 79 pregnant females in a study conducted by Kramer (1990). The standard deviations for these studies are 7.55, 6.20, and 8.24 respectively with a standard deviation of 6.65 for the present sample.

Locus of Control

The MHLC scores for the present sample were compared to norms for females from the results of studies conducted by Wallston et al. The IHLC mean score (24.3) and standard deviation (4.11) of the present sample was comparable to Wallston's mean (24.84) and standard deviation (4.50) on the IHLC. However, mean scores for the PHLC (23) and CHLC (23.1) for the present study were somewhat higher than the PHLC (19.76) and CHLC (14.93) mean scores from Wallston's study. The standard

deviations were 7.11 and 4.49 (PHLC) and 5.75 and 5.21 (CHLC) respectively.

Coping

The results of the Jalowiec Coping Scale (JCS) for the present sample were compared with previous studies utilizing the JCS. The mean scores for the present study on the affective-oriented subscale were 69.3 and on the problem-oriented subscale 43.7. In a study by Baldree, Murphy, and Pewers (1982) of 35 hemodialysis patients the mean scores for the affective-oriented were 59.03 and the problem-oriented were 47.03. Standard deviations for the present study were 10.54 (A-O coping) and 10.70 (P-O coping) for Baldree et al. they were 10.41 and 9.18 respectively.

Perceived Stress and Locus of Control

The first research question to be addressed was: What is the relationship between perceived stress and locus of control during the third trimester of pregnancy? The Pearson Product Moment Correlation Coefficient (Pearson r) was used to determine the relationship between perceived stress and the three locus of control subscales (IHLC: Internal, PHLC: Powerful Other, and CHLC: Chance). The results were arranged in a correlation matrix (Table 4). A significance level of 0.01 was used. The results of the Pearson r showed a negative relationship (-.601) between IHLC and perceived stress ($p<.01$), and a positive relationship between PHLC (.552), CHLC (.551) and perceived stress ($p<.01$).

Therefore, higher scores on the IHLC are related to lower perceived stress scores with the opposite being true for CHLC and PHLC scores.

Perceived Stress and Coping

The second research question: "What is the relationship between coping and perceived stress during the third trimester of pregnancy?" will be addressed here. The Pearson r was used to examine the relationship between perceived stress and the two coping subscales (affective and problem-oriented). The results were arranged in a correlation matrix (Table 5). A significance level of 0.01 was used.

The results demonstrate a positive relationship between perceived stress (.662) and affective-oriented coping ($p<.001$). However, the negative relationship between perceived stress (-.252) and problem-oriented coping was not statistically significant ($p<.176$). Therefore, affective-oriented coping was related to higher PSS scores.

Table 4. Correlation Matrix of Perceived Stress and Locus of Control Subscales.

	Perceived Stress	IHLC	PHLC	CHLC
Perceived Stress	_____	.601 <.01	.552 p <.01	.551 p <.01
IHLC		_____	- .672 p <.001	- .676 p <.001
PHLC			_____	.890 p <.001

Table 5. Correlation Matrix of Perceived Stress and Coping Subscales.

	Perceived Stress	A-Oriented	P-Oriented
Perceived Stress	_____	.682 p <.001	- .252 p <.176
A-Oriented		_____	.516 p <.01
P-Oriented			_____

Discussion of Findings

A relationship was found among all the variables posed in the research questions. Perceived stress was found to be related to all three MHLC subscales. The findings indicated a relationship between higher PSS scores and both CHLC and PHLC. In contrast, lower PSS scores were related to higher IHLC scores.

In examining the relationship between PSS and coping, higher PSS scores were related with higher affective-oriented coping behaviors. Summary, conclusions, limitations, and future recommendations are presented in Chapter V.

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

This study examined the relationship between three variables during a selected stage of pregnancy: the third trimester. New information was obtained from the findings that may provide insight into stress in pregnancy. This chapter provides a discussion of the findings of the study. Limitations of the study are included. Nursing implications and recommendations for additional research are also provided.

Summary of the Findings

The purpose of this study was to examine the relationship between perceived stress, locus of control, and coping. The importance of looking at these relationships was to identify areas such as locus of control and coping that could potentially be modified to decrease percieved stress in pregnancy.

Perceived Stress

The higher mean scores on the PSS (35.6) in the present study as compared to studies conducted by Cohen et al. (23.57 and 25.71) (1983) and Kramer (25.77) (1990) could be attributed to the type of sample studied. Sherwen (1981) found women in the third trimester to have increased anxiety and stress as compared to women in early pregnancy or nonpregnant women. Lederman (1984) found pregnant women's

dreams and nightmares tended to parallel real life concerns, and a majority of the dreams were attributed to anxiousness and stress in the third trimester.

Sherwen et al. (1991) found women in the third trimester to have increased feelings of fear and anxiety. Imle (1990) has also found women to have increased concerns and anxiety in the third trimester.

The higher mean scores on the PSS on the present study could also be related to demographic differences. Sixty-four percent (64%) of the present sample was comprised of employed pregnant women. The study conducted by Brown (1987) found that even though women perceived more positive health when employed while pregnant, they also perceived higher stress. The higher mean score on the PSS may have been influenced by the large number of employed pregnant women in the present study.

Another factor that may have impacted on the PSS mean score was the number of multiparous women in the study. Mercer (1979) identified multiparous women to have more concerns than nulliparous women. Multiparous women worry more about the child or children at home and how they will handle the new relationships created as a result of the pregnancy. In a study conducted by Westbrook (1978) of 200 subjects, multiparous women were found to be more anxious about the upcoming delivery and more fearful of mutilation than nulliparous women. Of the thirty subjects in the present study, seventeen (57%) were multiparous which may have contributed to the higher PSS scores.

Of the thirty subjects in the present study, fifteen (50%) were classified as low-income. This factor may have influenced the perceived stress scores. This finding is supported by previous work by Norbeck and Anderson (1989) who found white, low-income pregnant women to have higher stress scores than the reported mean scores.

Another factor that may have influenced the PSS findings was race. All of the subjects (100%) were white. In a study by Norbeck and Anderson (1989) comparing life stress in pregnancy among Black, Hispanic, and White women the mean life stress score (14.8) of the White subjects was greater than the overall mean life stress score (12.2). The mean score (14.8) for the White subjects was very close to the mean score (15.2) for the Black subjects. However, the distribution of stress scores in Norbeck and Anderson's research (1989) may have been greatly skewed as a result of the extremely low mean score (7.2) of the Hispanic subjects. Standard deviations for Norbeck and Anderson's study was not provided in the research report.

A recent study conducted by Affonso and Mayberry (1990) compared perceived stressful events among women in the first trimester, third trimester, and post-partally. The researchers found women in the third trimester to have higher scores on perceived stressful events than those women in the first trimester of pregnancy. The findings of the present study support the findings that perceived stress is higher during the third trimester of pregnancy.

Locus of Control

Findings of the present study suggest a negative relationship between perceived stress and internal locus of control (IHLC). These findings support Mercer's et al. (1986) findings that one's sense of control is related to stress.

For example, when a woman is pregnant she may feel out of control. The responsibility for having the baby is hers. No one can do this task for her. However, if she is empowered by her care provider and is given a lot of control via childbirth classes, choice of anesthesia, and feeding method, she may attain a sense of control over her situation. Given the choice of a birth environment would also promote a sense of control for the pregnant woman. Many options are available in this area such as birthing rooms and labor-delivery-recovery rooms (LDR). These environments promote transition to motherhood and maternal-child attachment by providing continuity of care in creating an environment where mother and infant remain together after delivery, through recovery, and throughout the hospital stay. This new option of allowing the pregnant woman to choose her birth environment empowers her and gives her a sense of control.

Allowing fathers and significant others to participate in the labor and delivery experience also promotes a sense of control for the woman. The presence of significant others during this period provides support for the laboring woman and ameliorates the stress created by feeling alone and out of control. The importance of social support to pregnant women and pregnancy outcomes has been studied by several researchers

(Brown, 1986; Mercer, 1986; Norbeck & Anderson, 1989; Norbeck & Tilden, 1983). Therefore, nurses should promote the inclusion of significant others into the laboring process to empower the pregnant woman and encourage a sense of control.

Coping

Results of this study found perceived stress to be positively related (.682) to affective-oriented coping. In the present sample perceived stress was negatively related (-.252) to problem-oriented coping; but, the analysis was not statistically significant ($p < .176$).

This study supports research findings by Lazarus et al. (1974) that high perceived stress was positively related to the use of emotion-oriented coping. Also, in another study (N=136) by Yarcheski and Mahon (1986), perceived stress was positively related to affective-oriented coping. Research conducted by Christman et al. (1988) similarly found increased distress to be related to emotion-oriented coping.

Affective-oriented coping was found to increase with increasing levels of perceived stress and may be related to a sense of losing control during the third trimester of pregnancy or a depletion of energy as a result of the increased stress. On the other hand, women who score higher on problem-oriented coping may perceive themselves to have control of their pregnancy and able to make decisions regarding their pregnancy, labor and delivery period.

Smoking

The relatively high percentage of women in this sample (27%) who continued to smoke during pregnancy mandates concern. Substance use, such as cigarette smoking and alcohol consumption, has been identified as a way of coping with stress (Conway et al., 1981). During pregnancy these types of coping behaviors could prove detrimental for the unborn fetus. Smoking has been associated with preterm birth, increased incidence of abruptio placenta, intrauterine growth retardation, decreased appetite and false hematocrit elevations (Guzick et al., 1984). Therefore, identification of those women who smoke during pregnancy is an important aspect of prenatal assessment. In this assessment stress and coping behaviors must also be evaluated. Through early identification of these behaviors nurses could identify and promote alternative, more healthful behaviors.

In the present study, 27% of the subjects were smoking in the third trimester of pregnancy. Assuming education and alternate choices were given in the early prenatal period, a significant number continued to smoke. Even though the third trimester is not the best time to introduce education to encourage the women to stop smoking, indentification of this behavior could provide valuable information in the assessment for risks during the perinatal period. Prenatal education regarding signs and symptoms of preterm labor and abruptio placenta would be helpful. Identification of smoking behavior also points to those at risk for nutritional deficits. Providing education

regarding nutrition and adequate caloric intake is very important for women who continue to smoke during pregnancy.

Limitations

There are several limitations of this study. Many factors produce perception of stress, and the basis for subjects' perception was not examined. Thus, it is unknown if many life events were occurring in addition to the changes of pregnancy such as crises in the pregnant woman's current employment situation, interpersonal conflict with spouse, parents, in-laws, or other stressful events.

The tool used to measure coping in this study was Jalowiec's 1983 instrument. More recently, Jalowiec has revised her tool by increasing the instrument to sixty items rated on a 0-3 scale and assessing eight specific coping styles (Herth, 1990). These eight coping styles are: 1) Emotive Coping Style, dealing with expression; 2) Evasive Coping Style, dealing with avoidance activities; 3) Confrontive Coping Style, concerned with constructive problem solving; 4) Fatalistic Coping Style, concerned with pessimism; 5) Optimistic Coping Style, dealing with positive outlook; 6) Palliative Coping Style, concerned with stress reduction; 7) Self-Reliant Coping Style, concerning self-initiated activities; and 8) Supportive Coping Style, concerned with supportive systems (Herth, 1990). This tool is scored by a calculation of combined use and effectiveness scores for each coping style. Utilization of this newer tool may have provided a more comprehensive examination of coping.

Another limitation was the sample size. A sample size larger than thirty would be more representative of the general population. Utilization of a convenience sample prohibits generalizing the results due to a lack of randomization.

Racial distribution in this study also limits the ability to generalize the results. One would expect to find a more diverse ethnic population in this area of Tennessee. The sample was obtained from a university town in the Upper Cumberland area of Tennessee where numerous ethnic groups are represented. Therefore, the distribution of the present sample is not representative of the Upper Cumberland area.

Physical surroundings for data collection were also a limitation. Conditions within the surroundings could not be controlled. Subjects responded to the questionnaire in crowded waiting rooms during long waiting periods, and were interrupted for appointments in some cases. When interrupted for an appointment the subject completed the questionnaire after the appointment.

Implications

Nursing Implications

Results of this study indicate that perceived stress, coping, and locus of control in pregnancy should be considered when planning nursing interventions for promotion of self-care and the self-care agency. The responsibility of nursing is to assist individuals in reaching their goals of a safe pregnancy and delivery through the promotion of self-care. It is of utmost importance that nurses assess

the ability of individuals to perform self-care and assess self-care deficits. Orem (1985) views self-care as a continuous process. The role of the nurse is to continually support the self-care role of the individual to promote health.

Nursing must recognize pregnancy as a developmental crisis and as a time of continued development and change. The third trimester is a time of transition with many concerns and increased stress for the pregnant woman and family (Imle, 1990). Norbeck and Tilden (1983) found that high levels of stress during pregnancy adversely affected pregnancy outcomes. Crandon (1979) found women with high anxiety levels in the third trimester of pregnancy to have an increased incidence of obstetrical complications. Sherwen (1981) also found women in the third trimester to have increased anxiety from fear fraught fantasies and dreams.

Orem (1985) supports the maintenance of self-care. This theorist suggests the focus of health should be empowering individuals to care for themselves with the utilization of nursing systems to promote self-care. Application of the theory of self-care in the third trimester of pregnancy requires the nursing system to assist the pregnant woman to identify areas of stress and stress reduction measures. Promotion of self-care in this manner assists pregnant women to maintain equilibrium and maintain obstetrical complications.

Stress and its adverse effects on pregnancy have been established. Researchers have found increased stress to be associated with increased use of tobacco and alcohol (Conway et al. 1981). Use of these substances pose a physical risk to the pregnancy and the fetus. In

assessing these behaviors, the nurse must consider the psychological components of pregnancy. Substance use must be identified as a self-care deficit and nursing interventions must focus on the restoration of the self-care requisite of hazard prevention.

The increased stress associated with multiparity needs to be recognized by nurses. Nursing should assess the ability of multiparous women to meet the self-care requisites of normalcy and balance between rest and activity. Early assessment and intervention could alleviate many of the concerns and fears of multiparous women.

Low-income pregnant women accounted for 50% of the subjects in the present study. Low-income was also found to be related to fetal health with an increase in low-birth weight infants in the low-income group (Gould & LeRoy, 1988). These findings indicate a need for intervention in the promotion of health and prevention of complications in this group. In a study of low-income subjects by Brownell and Shumaker (1985) social support was found to be beneficial only after prevention of stress. In other words, social support was not viewed to be as critical as the management of stress itself. These findings support the need for nurses to assess for stress, particularly in low-income women, and intervene to prevent or alleviate sources of stress whenever possible.

The promotion of self-care encourages pregnant women to be responsible for health maintenance and promotion. Consideration of types of nursing intervention must also consider locus of control. Wallston et al. (1976) found a relationship between internal LOC and seeking of health promotion information. The use of LOC has also been

found to increase the predictability of health behaviors (Shillinger, 1983).

McDonald (1972) has identified three change techniques for possibl altering one's locus of control. These change techniques could be adapted and applied to the pregnant woman with an external LOC. First, the reconstrual of stimuli helps the woman change her perception of the situation. This technique assists the individual to change her behavior without changing the situation. For example, a pregnant woman who smokes can be encouraged to stop or decrease smoking during her pregnancy.

Second, the action-oriented approach deals with implementation of a new behavior instead of altering attitudes. This is accomplished by assisting the individual to develop goals and to take action to attain the goals. For example, a pregnant woman with gestational diabetes could be assisted in developing realistic goals (education on obtaining blood samples via a fingerstick method, education regarding dietary measures, and the benefits of exercise) to maintain the self-care requisites of balance and normalcy.

Third, the counseling approach deals with challenging the external behaviors and rewarding the internal behaviors. This approach encourages the individual to recognize the relationship between behaviors and outcomes. For example, praising the pregnant woman for following a restricted diet and showing her the outcome of appropriate weight gain promotes internal control.

Slivinske and Fitch (1987) found improved health and well-being

to be related to perceived control in the elderly. These researchers found education and encouragement of self-care promoted perceived control in these subjects. If these findings could be generalized to the present study, education and encouragement could be instituted to promote internal control. Prenatal education could promote self-care and well-being.

Another study conducted by Jordan-Marsh and Neutra (1985) found subjects who participated in a lifestyle change program showed a trend toward more internal orientation. These studies support the proposition that locus of control can be influenced or altered. These findings also point to implications for nurses to consider LOC as an important aspect of patient assessment.

Using Orem's (1985) theory of self-care should also be considered as a nursing intervention. Encouraging individuals to be responsible for self-care and intervening to promote internal LOC are two examples of theory application. In the present study, higher internal control is associated with less perceived stress. Awareness of locus of control could also assist in targeting and selecting types of nursing interventions. Those women with external LOC may benefit more from direct interventions; whereas, those with an internal LOC would benefit from promotion of independent self-care.

In a previous study of locus of control in pregnancy, LOC was found to have an impact on health promotion activities (LeWallen, 1989). Health promotion should be part of every prenatal nursing practice.

Promotion of health and self-care will contribute to better pregnancy outcomes.

Pregnancy is a time of change. Change implies adaptation. Recognition of types of coping is important in promoting self-care. Utilization of affective-oriented coping is positively related to perceived stress (Lazarus et al. 1974). By identifying the type of coping, the nurse can intervene by teaching the woman in the area of problem-solving skills.

Orem's (1985) self-care requisites are to promote growth and development and prevention of conditions that negatively affect growth and development. Pregnancy is a time of growth and development. Nursing must recognize pregnancy as a developmental crisis and as a time of continued development and change. The symbol for crisis in Chinese is opportunity for growth. For people in crisis, growth can either be enhanced through support and education regarding pregnancy, labor, delivery, and parenting, or stunted through unrealistic expectations of the pregnant woman and lack of support during this crisis. This is a critical period and the pregnant clients have the potential to reach new heights in personal growth and development given appropriate support. Nurses can facilitate this growth process by providing education regarding pregnancy, labor, and parenting and empowering these women to make choices in directing their care and selecting their birthing environments. Given the appropriate support these women can end up with superior coping.

Therefore, identification of LOC and coping can enable the nurse to assist the individual in maintaining self-care. This maintenance of

self-care promotes the individual's belief that they are in control, and this has been related to lower perceived stress.

Implications for Future Research

This study focused on the relationship among perceived stress, coping, and locus of control during the third trimester of pregnancy. A study examining these relationships in the other trimesters of pregnancy is needed, as well as a comparison of pregnant and nonpregnant subjects. Research examining the above relationships in adolescent pregnancy and delayed pregnancy is also needed. It would be interesting to examine these groups in the light of planned pregnancies versus unplanned pregnancies.

Another area for further investigation would be a comparison of perceived stress in multiparous and nulliparous groups. Mercer (1979) found multiparous women to have more concerns and higher perceived stress than nulliparous women. It would be interesting to replicate this study in the ninties when society is encountering a new millenium.

Another recommendation would be to study perceived stress and coping in pregnancy and its relationship to maternal-infant attachment. This focus could enable nurses to identify those who are at risk both prenatally and postpartally due to increased stress, and interventions might alter some maladaptive parenting behaviors.

A final recommendation for future research would be to examine the role of social support in stress reduction and positive pregnancy outcomes. As early as 1976, Cobb found a high percentage of women who

experienced pregnancy complications to have high stress levels and poor social support to buffer stress.

Summary

Stress will continue to be part of life for all individuals. However, stress and its impact on pregnancy is of special concern in parent-child nursing. Stress cannot be eliminated, however, nurses can initiate measures to control or reduce stress in pregnancy. The knowledge and implementaion of locus of control and coping strategies can aid in designing appropriate interventions.

Care of the pregnant woman should be approached from a holistic viewpoint. The psychological being must be considered with the physical being, interdependently and not separately. By considering all the parts of the human being and their relationships to each other and the whole the nurse will better comprehend the effect of stress on each woman.

In applying Orem's theory to practice, it is important that nurses look at the whole person and the person's relationship with health and the environment. By promoting self-care the nurse empowers the pregnant woman to be responsible for self and to promote self-care. This should be the goal of nursing practice with pregnant clients.

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APPENDICES

APPENDIX A

PARTICIPANT CONSENT FORM

You are invited to participate in a project designed to improve the quality and effectiveness of nursing in prenatal care. Your involvement in the project will be to complete a questionnaire. The questionnaire will require approximately 30 minutes.

All data will be kept confidential. Each questionnaire will be coded with an identification number instead of a name.

Your participation in this project is voluntary and you are free to withdraw at any time and/or refuse to answer specific questions without being affected negatively.

You may contact the researcher listed below if questions arise concerning your participation in the project.

Thank you,

Barbara S. Jared
Route 4, Box 2340
Sparta, TN 38583
761-3677

I understand the above information. I give consent freely to participate in this project.

Signed_____

Date_____

APPENDIX B

FORM LETTER

Date

Dr. Sandra Thomas
Chairperson for Research Committee
U.T. College of Nursing
1200 Volunteer Blvd.
Knoxville, TN 37918

Dear Dr. Thomas

This letter of approval is being written for Barbara S. Jared. She is a graduate student in the U.T. College of Nursing. She has my approval to conduct a study in my office concerning the relationship of perceived stress in pregnancy and locus of control and coping.

I understand the study is scheduled to be conducted in the summer of 1990. I also understand the study will involve the administration of a questionnaire to pregnant women waiting for a prenatal visit in my office. I have been given the opportunity to review the questionnaire that is to be administeed in this study.

Permission is granted for the study to be conducted in my office.

Sincerely,

Dr. Karl Klein
Dr. Walter Derryberry
Dr. Harry Stuber
Dr. James Gray

APPENDIX C

Demographic Survey

A. What is your age?_____

B. What is your marital status?
   1. never married
   2. married
   3. divorced/separated
   4. widowed

C. Number of children?_____

D. Ages of children?_____

E. What level of education have you attained?
   1. did not graduate from high school
   2. high school graduate or GED
   3. technical/vocational school
   4. BS/BA college graduate
   5. MS/MA degree
   6. EdD/PHD/MD/JD

F. What is your employment status?
   1. not presently employed
   2. employed full-time
   3. employed part-time

G. What is your annual household income?_____

H. What is your occupation?
   _____

I. How many weeks pregnant are you?
   _____

J. What is your race?
   1. White, Caucasian
   2. Afro-American
   3. Indian
   4. Hispanic
   5. Asian
   6. Other

K. How many cigarettes do you smoke per day?

L. Are you presently taking prescription or nonprescription drugs?_____
   If so, what are you taking?
   _____

M. Do you drink alcoholic beverages?_____
   If so, how much do you drink?_____

APPENDIX D

Perceived Stress Scale

For each question choose from the following alternatives:

0 never
1 almost never
2 sometimes
3 fairly often
4 very often

____ 1. In the last month, how often have you been upset because of something that happened unexpectedly?
____ 2. In the last month, how often have you felt that you were unable to control the important things in your life?
____ 3. In the last month, how often have you felt nervous and "stressed"?
____ 4. In the last month, how often have you dealt successfully with irritating life hassles?
____ 5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?
____ 6. In the last month, how often have you felt confident about your ability to handle your personal problems?
____ 7. In the last month, how often have you felt that things were going your way?
____ 8. In the last month, how often have you found that you could not cope with all the things that you had to do?
____ 9. In the last month, how often have you been able to control irritations in your life?
____ 10. In the last month, how often have you felt that you were on top of things?
____ 11. In the last month, how often have you been angered because of things that happened that were outside of your control?
____ 12. In the last month, how often have you found yourself thinking about things you have to accomplish?
____ 13. In the last month, how often have you been able to control the way you spend your time?
____ 14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

APPENDIX E

Multidimensional Health Locus of Control

For each question choose from the following alternatives:

1 strongly disagree
2 moderatley disagree
3 slightly disagree
4 slightly agree
5 moderately agree
6 strongly agree

____ 1. If I get sick, it is my own behavior which determines how soon I get well again.
____ 2. No matter what I do, if I am going to get sick, I will get sick.
____ 3. Having regular contact with my physician is the best way for me to avoid illness.
____ 4. Most things that affect my health happen to me by accident.
____ 5. Whenever I don't feel well, I should consult a medically trained professional.
____ 6. I am in control of my health.
____ 7. My family has a lot to do with my becoming sick or staying healthy.
____ 8. When I get sick I am to blame.
____ 9. Luck plays a big part in determining how soon I will recover from an illness.
____ 10. Health professionals control my health.
____ 11. My good health is largely a matter of good fortune.
____ 12. The main thing which affects my health is what I myself do.
____ 13. If I take care of myself, I can avoid illness.
____ 14. When I recover from an illness, it's usually because other people (for example, doctor, nurses, family, friends) have been taking good care of me.
____ 15. No matter what I do, I'm likely to get sick.
____ 16. If it's meant to be, I will stay healthy.
____ 17. If I take the right actions, I can stay healthy.
____ 18. Regarding my health, I can only do what my doctor tells me to do.

APPENDIX F

Coping Scale

People react in may ways to stress and tension. Some people use one way to handle stress, while others use many coping methods. I am interested in finding out what things people do when faced with stressful situations. Please estimate how often you use the following ways to cope with stress by picking one number for each item.

For each question choose from the following alternatives:

1 Never
2 Occasionally
3 About half the time
4 Often
5 Almost always

Coping Method

____ 1. Worry
____ 2. Cry
____ 3. Work off tension with physical activity or exercise
____ 4. "Hope that things will get better"
____ 5. Laugh it off, figuring that "things could be worse"
____ 6. Think through different ways to solve the problem or handle the situation
____ 7. Eat; smoke; chew gum
____ 8. Drink alcoholic beverages
____ 9. Take drugs
____ 10. Try to put the problem out of your mind and think of something else
____ 11. Let someone else solve the problem or handle the situation for you
____ 12. Daydream; fantasize
____ 13. Do anything just to do something; even if you're not sure it will work
____ 14. Talk the problem over with someone who has been in the same type of situation
____ 15. Get prepared to "expect the worst"
____ 16. Get mad; curse; swear
____ 17. Accept the situation as it is
____ 18. Try to look at the problem objectively and see all sides
____ 19. Try to maintain some control over the situation
____ 20. Try to find purpose or meaning in the situation
____ 21. Pray; "put your trust in God"
____ 22. Get nervous

____ 23. Withdraw from the situation
____ 24. Blame someone else for your problems or the situation you're in
____ 25. Actively try to change the situation
____ 26. Take out your tensions on someone or something else
____ 27. Take off by yourself; "want to be alone"
____ 28. Resign yourself to the situation because things look hopeless
____ 29. Do nothing in the hope that the situation will improve or the problem "will take care of itself"
____ 30. Seek comfort or help from family or friends
____ 31. Meditate; use yoga, biofeedback, "mind over matter"
____ 32. Try to find out more about the situation so you can handle it better
____ 33. Try out different ways of solving the problem to see which works the best
____ 34. Resign yourself to the situation because it's "your fate" so there's no sense trying to do anything about it
____ 35. Try to draw on past experience to help you handle the situation
____ 36. Try to break the problem down into "smaller pieces" so you can handle it better
____ 37. Go to sleep, figuring "things will look better in the morning"
____ 38. Set specific goals to help you solve the problem
____ 39. "Don't worry about it, everything will problably work out fine"
____ 40. Settled for the next best thing to what you really wanted

VITA

Barbara Slatten Jared was born in Sparta, Tennessee, on March 1, 1963. She attended Cassville Elementary School and graduated from White County High School in 1981. Her Bachelor of Science in Nursing was awarded from Tennessee Technological University in 1984.

Immediately after graduation, Ms. Jared began her nursing practice in labor and delivery. Her nursing practice continues to be in women's health in the area of obstetrics and gynecology. She has worked as a staff nurse, charge nurse, prenatal educator, and clinic nurse. Her current focus of practice is nursing education and clinical practice in family planning.

In 1989, Ms. Jared began the graduate program in the College of Nursing at the University of Tennessee, Knoxville.

The author is a member of Sigma Theta Tau International and NAACOG: The Organization for Obstetric, Gynecologic, and Neonatal Nurses.