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Relationship Of Changes In Functional Social Support And Depressive Symptomatology From Prenatal To Post Partum In Low Income Women

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RELATIONSHIP OF CHANGES IN FUNCTIONAL SOCIAL SUPPORT AND DEPRESSIVE SYMPTOMATOLOGY FROM PRENATAL TO POST PARTUM IN LOW INCOME WOMEN

By

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ABSTRACT

RELATIONSHIP OF CHANGES IN FUNCTIONAL SOCIAL SUPPORT AND DEPRESSIVE SYMPTOMATOLOGY FROM PRENATAL TO POST PARTUM IN LOW INCOME WOMEN

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Depressive symptomatology in pregnancy and the post partum period does occur for some women. The purpose of this study was to determine the relationship of changes in functional social support and depressive symptomatology from prenatal to post partum. It was hypothesized that there was a relationship between changes in functional social support and changes in depressive symptomatology from prenatal to post partum. The sample was 36 women who completed questionnaires on functional social support and depressive symptomatology. This study will provide baseline information to maternal health care providers about social support and depressive symptoms. It may be used in the development of new instruments for future studies with larger samples. Nursing practice would benefit from findings on these topics by enabling changes in care guidelines and teaching modalities.

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INTRODUCTION

Pregnancy is a time when changes occur in a woman's body. Most women find these changes exciting and expected. Changes of pregnancy are usually anxiously anticipated and family and friends share in this experience, providing a woman with functional social support for this event. One change that is not expected or welcome is the appearance of depressive symptomatology. Depressive symptoms can appear during the pregnancy and for a time after the birth of the infant. "Postpartum psychiatric disorders have been recognized since the time of Hippocrates, when the function of lactation was thought to be the origin of problems that follow childbirth" (Gruen, 1990, p. 261). The purpose of this study was to determine the relationship between changes in functional social support and changes in reported depression scores from prenatal to the post partum visits.

Pregnant and post partum women have many changes occurring in their lives, some physical and some emotional. Support from friends, family and spouse can make these alterations in life manageable. The need and desire to have a support system are defined individually. To one woman, the ability to have someone with whom to discuss and

problems is sufficient. To others help with domestic chores, constant physical presence of a support person and continual reinforcement is needed to feel supported.

A functional social support system may be essential for pregnant women. The value of such support is determined by for each woman. This makes it necessary for health care providers to address this subject with clients individually. An alteration in the functional social support system may be a factor that contributes to the woman's feelings of depression. The symptoms of depression can intensify if a woman does not have social support and encouragement from family and friends. Mercer & Ferketich (1988) found that social support was a determinant for depression during pregnancy but there is much needed work determining differences in social support constructs.

"Depression during pregnancy and its contributing factors have not been studied extensively. Depression among poor pregnant women has received even less attention" (Sequin, Potvin, St. Denis, & Loiselle, 1995, p.583). The hormonal and emotional changes that occur during pregnancy can mimic depressive symptoms (Zuckerman, Amaro, Bauchner & Cabral, 1989). Frequent mood swings, anxiety, fearfulness, loss of energy, sleep difficulties, loss of interest in usual activities, decreased sexual desires and poor appetite are all possible symptoms of depression in pregnancy (Philipp, Maier & Delmo, 1990). The overlap in symptoms or changes indicates why health care providers may miss

symptoms of depression in pregnant women.

Limited studies indicate that clinical depression during pregnancy is reported in 4% to 16% of pregnancies while depressive symptomatology occurs in as many as 30% to 38% of all pregnant women (Zuckerman et al., 1989). These findings can be significant when relating them to pregnancy outcomes. Depressive symptoms such as loss of appetite can influence the birth weight of an infant. Women who are clinically depressed may be more inclined to smoke cigarettes, drink alcohol or use drugs to alter their mood; these all have deleterious affects on the fetus (Steer, Scholl, Hediger, & Fischer 1992; Zuckerman et al., 1989).

Support of family and friends is perceived differently by each individual, according to the importance of functional social support. One perception might be unwanted functional social support. The pregnancy may cause personal resentments, interference of in-laws or friends, or dependency on others due to illness during pregnancy. Another perception would deal with a lack of available functional social support. The support of family and friends may not be as available as the pregnant woman needs or desires. Should this happen, the pregnant woman may be at risk of developing depressive symptoms because perceived needs of social support have not been met. Functional social support may not provide the woman with what she wants for functional social support. The problem may arise from a difference of what is wanted for functional social support

and what is available.

Depression in the post partum period is a complex phenomenon involving three categories. Post partum blues occur after delivery of the infant to 10 days post partum. The blues are usually a short term problem but if not resolved can lead to post partum depression. Post partum depression can occur during pregnancy and up to one year post partum. Post Partum depression is treated with medication and outpatient counseling. Psychotic depression is depression requiring intense medical care with possible hospitalization and medication. Women with psychosis may have a past history of depression and it could indicate an ongoing, unresolved medical problem. Factors influencing depression vary with each woman (Gruen, 1990). Some women will not experience this problem while others are at risk for postpartum depression especially when there is a lack of social support (Wolman, Chalmers, Hofmeyr, & Nikodem, 1993).

Research is not sufficiently covering the problems associated in depression in pregnancy and post partum. There is little information studying social support and the effect on depressive symptomatology occurring during pregnancy and post partum. The problem of depression can have effects on the pregnancy and fetal outcome making this important to research. The purpose of this study is to look at the relationship of these variables and determine if there is a change that occurs in either the social support or depressive symptomatologies.

Study Relevance

Several factors may contribute to post partum depression. The physiologic component due to hormonal changes may result in weight loss, appetite loss, feelings of loneliness and hormonal changes. The past history component includes family history of mental illness, previously diagnosed depression, and abuse. Support of family and friends may effect a woman's emotions and help diminish depressed need (Zuckerman et al., 1989). Depression or depressive symptoms may have a direct relationship on pregnancy outcome by leading to substance abuse involving cigarettes, alcohol, marijuana or other illicit drugs (Zuckerman et al., 1989). Depression may be a problem that can negatively influence the well being of the fetus and the family unit.

Nurses in advanced practice are educated to evaluate and help minimize the possible complications that may occur when depression affects pregnant women. The social support of pregnant women is an important factor that needs to be evaluated. Advanced Practice Nurses (APN) are able to assess and develop interventions for both functional social support and depression for pregnant women. The APN is in a position in the health care system to intervene when necessary. The skills of the APN can provide the appropriate interventions to pregnant and post partum women.

Early detection of potential problems regarding social support can help eliminate later problems such as

depression. The APN has the opportunity to educate and counsel the client and family. The APN may assist the client and family in recognizing problem areas and mutually setting goals. Through education and counseling, the client will become more adept at recognizing areas of depression and deficits in functional social support. The client can then strengthen these areas to deal with future problems.

The APN is then able to follow the plan of care and evaluate its effectiveness for each woman. Working collaboratively with the physician, social worker, psychiatrist, psychologist or any other referral the woman may need, enables the health care team to provide individualized and personal care for each client.

Research Question

Is there a relationship between changes in functional social support and changes in depressive symptomology from prenatal to postpartum?

Hypothesis

There is a statistically proportional difference between women who have an increase, decrease, or no change in functional social support and women who have increases, decreases, or no change in depressive symptomatology from prenatal to post partum.

CONCEPTUAL DEFINITIONS

Depressive Symptomatology

Depressive symptomatology is symptoms of depression that a client perceives or reveals to the examiner. The

symptoms are signals of a change in the client's emotional well being. These symptoms can occur at any stage of the life cycle and are not specific to the female gender. Symptoms can be minimal, allowing the client to deal with issues without medical assistance, or they can be clinically significant requiring medical interventions including medication and or psychotherapy. Each person exhibits a unique presentation of depression. Symptoms can include frequent mood swings, anxiety, fearfulness, loss of energy, sleep difficulties, loss of interest in usual activities, decreased sexual desires and poor appetite (Philipp et al., 1990).

The components of depressive symptomatology consist of depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite and sleep disturbance (Radloff, 1977). These components can be utilized to assist in the diagnosis at any stage of life, even during pregnancy. The symptoms of pregnancy including loss of sleep, poor appetite, frequent mood swings, anxiety, fearfulness, loss of energy and decreased sexual desire overlap with depressive symptomatology. The overlapping of symptoms can interfere with the diagnosis of depression in pregnant women. Clark, Anehensel, Frerichs, and Morgan (1981) state that these depression symptoms can then be grouped into negative affect, positive affect, somatic and retarded activity and interpersonal systems.

Utilizing the depression symptomatology described by Radloff (1977), assessing the frequency they occur and the duration of symptoms the clinician is able to develop a diagnosis of depression. These symptoms are a screening tool to assist in diagnosis of depression.

Both the depression symptoms used by Radloff (1977) and Beck, Ward, Mendelson, Mock, & Erbaugh, (1961) are utilized to screen the clinical symptoms of depression described in Diagnostic and Statistical Manual of Mental Disorders (1994). The classification systems vary in the number of symptoms they utilize but follow the same outlines.

Depressive symptomatology represents symptoms that are the key factors for determining depressive states. A person exhibiting a combination of five or more depressive symptoms can be diagnosed as clinically depressed by the health care professional. Care plans and treatment then are evolved for the client. "Diagnosis of depression is appropriate when a minimum of five symptoms, one of which is "depressed mood" or "loss of interest or pleasure in most or all activities" are present nearly every day for at least two weeks" (Guze & Gitlin, 1994, p. 49).

Depressive symptomatologies can affect all stages of the life cycle. For this study the symptomatologies will be related to the prenatal and post partum time frame. Prenatal depression is diagnosed using the same assessment tools as would be utilized in the general population. The problem with diagnosing during pregnancy is that some of the

symptomatologies for depression are closely related to symptoms of pregnancy. Fatigue, appetite loss, irritability, crying and sleep disturbances are variables that exist in both depression and pregnancy. These symptoms may occur frequently more than one time a week and last longer than two weeks. These symptoms may be difficult to distinguish as depression symptoms or pregnancy symptoms.

Depressive symptomatology in the post partum period to one year post delivery is specific to the new mother and called post partum depression. Symptoms of depression are common in other populations but particularly identified in this group of people because of the time frame in the life cycle. Women's symptoms after pregnancy can be mild as in the "baby blues" or as clinically significant as post partum psychosis as seen in Table 1. Baby blues are typically dealt with by the woman and family, and rarely require use of medication or psychotherapy. Symptoms are usually transitory, passing with support and adequate care for the mother (Affonso & Domino, 1984).

The symptoms in the column "symptoms of post partum depression" (Table 1) are similar to those described by Radloff (1977) and Beck et al. (1961). The components of depressive symptomatology are grouped into psyiological, psychological and emotional symptoms. The milder symptoms being listed in column one (baby blues) and building upon these as the severity of depression increases.

Post partum depression, continued beyond two weeks or

Table 1.

Symptoms of Problems in Post Partum Adjustment

Symptoms of baby blues	Symptoms of post partum depression*	Symptoms of psychosis**
Physical		
Sleeplessness	Headache	refusal to eat
Lack of energy	Numbness, tingling in limbs	Inability to stop activity
Food cravings or loss of appetite	Chest pain	Frantic, excessive energy
Tiredness even after sleeping		
Mental		
Anxiety and worry	Despondency or despair	Extreme confusion
Great concern over physical changes	Feelings of inadequacy	Loss of memory
Confusion and nervousness	Inability to cope	Incoherence
Feelings such as "I'm not myself, this isn't me"	Hopelessness, sense of powerlessness	Bizarre
Lack of Confidence	Excessive concern over baby's health	Hallucinations
Sadness	Impaired concentration	(for example, walls moving,
Feelings of being overwhelmed	Loss of normal interests	animals talking)
	Loss of interest in sex	
	Thoughts of suicide	
	Bizarre or strange thoughts or fantasies	
	Feelings of shame, embarrassment or guilt	(table continues)

Table 1 (cont'd).

Symptoms of baby blues	Symptoms of post partum depression*	Symptoms of psychosis**

Behavior and reactions

More frequent crying	Extreme or unusual behavior	Suspiciousness
Hyperactivity or excitability	Panic attacks	Irrational statements
Oversensitivity, feelings hurt easily	Anxiety	Preoccupation with trivia
Irritability with everyone	Hostile or easily angered	
Lack of feelings for the baby	New fears or phobias	
	Hallucinations	
	Nightmares	
	Extreme guilt	
	No feelings for the baby	
	Overconcern for the baby	
	Anger toward the baby	
	Feelings of being out of control	
	Feelings of "going crazy"	

Note. from "Post partum depression: a debilitating yet often unassessed problem," be D. S. Gruen, 1990, Health and Social Work, 15(4) p. 664. adapted with permission.

*symptoms are in addition to baby blues symptoms.

**Symptoms are in addition to baby blues symptoms and post partum depression symptoms.

beginning after two weeks, may need intervention to enable the woman to cope with depressive issues and feelings. "The symptoms are mercurial; there can be sudden onset and decline, which makes them confusing and difficult to diagnose" (Hamilton, 1989, p.3). The symptoms are not constant, which seems to make it difficult for the client to get a feel for their condition. Symptoms may be present at one meeting and not at the next. Symptoms can be missed by the health care provider due to the woman's inability to relate problems. The depression symptoms may be confused with those symptoms that are similar to fatigue in caring for a small child. A mixture of all or only a few of the symptoms may be very evident, or easily hidden. This decreases the care providers' ability to accurately assess and diagnose the condition.

For the purpose of this study, depressive symptomatology was defined as those symptoms perceived by the client as occurring one or more times during the week prior to data collection. The components include depressive changes in client's mood, feelings of guilt or worthlessness, feelings of helplessness, psychomotor retardation, loss of appetite and sleep disturbance.

Functional Social Support

Functional social support is the support the woman perceives she receives from others. It may be from family support given by her spouse, parents, children and friends.

It may be professional support offered by health care professionals, social services, church or other outside agencies.

Functional social support, when effective, can assist women with the emotional, financial and social issues of pregnancy. Functional social support is usually considered to have a positive effect on the process of pregnancy and the neonates outcome. "... [S]ocial support in the past has been considered primarily a moderation effect on the psychological stress, whereas it actually may be a contributing factor in some high-risk subpopulations" (Saks, Frank, Lowe, Berman, Naftolin, Phil, & Cohen, 1990, p.791). Social support has a moderating effect on psychological stress affecting the pregnancy outcome by lessening stress. An example of a factor of functional social support contributing to a negative outcome might be in the pregnant adolescent pressured by peers to smoke, drink or take drugs.

The social network individuals have is unique to them. A social network involves not only the immediate family and friends but those people or groups that influence the individual. The influential parties might be church groups, social workers, doctors, nurses, governmental agencies or any number of individual or services that contribute to the person's well being.

Functional social support has three components: affect, affirmation and aid. Kahn (1979) stated that affect is interpersonal transactions that represent respect,

admiration and liking; affirmation is agreement or consensus with others; and aid represents assistance through information, material items or personal time (Kahn, 1979). These components are how functional social support is defined in the study.

The functional social support variable is a combination of the affect, affirmation and aid scores. The combined scores are the value used for the functional social support variable in this study. The components, affect, affirmation and aid, are not of interest as individual variables for this study.

Individuals interpret functional social support differently. Some individuals find that they are not dependent on others to a large degree, while others need constant reassurance and guidance. "The process by which individuals appraise the quality or adequacy of social support may be influenced by personal characteristics, including self esteem, need affiliation and locus of control" (Cutrona, 1989).

REVIEW OF LITERATURE

The available literature examines the concepts individually looking at causality but minimally examines relationships. The concept of change its relationship to depressive symptomatology and functional social support was not found in the literature. The variety of literature available is extensive for some of the concepts such as post partum depression and functional social support. The

literature for prenatal depression and functional social support is not as abundant.

Information on prenatal depression is not prevalent in the literature. O'Hara, Schlechte, Lewis & Wright (1991) found that women who had higher levels of depressive symptoms during pregnancy, had one previous episode of depression, or had premenstrual depression were at greater risk for post partum depression. In their study 25% of the women met the Handley (Handley Blues) criteria for depression. Handley Blues criteria was based on the work of Handley, Dunn, Waldron & Baker (1980). The severity of seven symptoms occurring during the first ten days post partum were examined. The symptoms were assessed retrospectively at nine weeks post partum (O'Hara et al., 1991). Twenty one percent of the women meeting the Visual Analogue Scales (VAS) for depression criteria experienced postpartum depression. VAS is derived from work from Kendell, McGuire, Conner, and Cox (1981) and Cox, Conner, Henderson, McGuire ,and Kendell (1983) and contained thirteen individual scales that looked at mood states. VAS has been used in previous studies of post partum blues and depression (Cox et al., 1983; Kendell et al., 1981). Women who met the Handley Blues Criteria had higher levels of depressive symptoms during the second trimester than women who did not meet this criteria (t = -2.76, df = 180, p < .01). Similar findings were observed in those women in the VAS criteria

Sequin et al. (1995) found a link between inadequate functional social support and depressive symptomology during pregnancy. Women with inadequate functional social support seemed to be at risk throughout childbearing for depression. The Sequin et al. (1995) study compared women of low socioeconomic status with women of higher socioeconomic status. Results at 30 weeks showed that poor pregnant women (n = 98, 46.9%) scored 10 or more on the BDI and often more severely than women who were of higher economic status (n = 46, 6.4%) and 20% scored 10 or more.

The study showed that depressive symptoms during pregnancy are more common in low income women and there is a strong relationship with these symptoms and socio-environmental factors. These symptoms are increased when the pregnant woman has perceived a need for social support at both economic levels. The findings from this study are particularly valuable for those women who are able to perceive needs of social support.

Sequin et al. (1995) cited depression symptoms in 17.3% of low income women to be in the moderate or severe level of depressive symptomatology and 46.9% to be high in depressive symptomology. In the high socioeconomic group, 20% scored high on depressive symptomatology. Only 2.2% of the high socioeconomic group scored in the moderate range and none of them scored in the severely high group.

During pregnancy depression has been associated with adverse health behaviors such as smoking (Steer et al.,

1992). Steer et al.(1992) found an increased risk of inner city adult gravidas (n = 389) to deliver low birth weight (LBW), preterm or small for gestational age babies associated specifically with the degree of self reported depression by the Beck Depression Inventory (BDI). A BDI score of 16-20 indicated dysphoria and scores at or above 21 identify presumptive clinical depression. The proportion of LBW infants for the adult gravidas with BDI score at or above 21 was 20.0% as opposed to 7.6% for those with a BDI less than 21. Poor pregnancy outcomes rose 5% to 7% for each point the BDI score rose and the odds were three times greater if the score was 21 or above.

Zuckerman, Bauchner, Parker and Cabral (1990) studied newborn irritability in babies born to mothers with depressive symptoms. They found mothers with symptoms of depression during pregnancy are more likely to have irritable babies. Their study did not have a cut off score for depression in pregnancy. The scores were divided into percents of the total number of women who delivered term infants (n = 1123). This indicates that if the CES-D score of 16 identifies depression, then 75% of the women were experiencing some depression during pregnancy. The CES-D scores were compared to self reported past history of depression or suicide attempts. Zuckerman et al. (1990) found that women with a pre pregnant history of depression for two or more weeks had higher CES-D scores (23.3 vs. 16.1 ($p < 0.001$).

Zuckerman et al. (1989) found the CES-D score prenatally for 1014 subjects to be a median score of 16, and a mean of 18.6 (SD 10.8). Zuckerman also utilized the Norbeck Social Support Questionnaire to analyze the social support received by prenatal women. Findings revealed that women with low levels of perceived emotional support reported more depressive symptoms ($r = -.11$, $p < 0.0001$).

Literature related to depressive symptomatology in post partum has increased. Prior to the 1980's little information was available on this topic. The subsequent literature contains wide variation in estimates of incidence of post partum depression with studies reporting incidence of 3% (Wolman, 1993) to 52% (Nicolson, 1990). The previously stated studies have been reviewed and there appears to be no consensus on the percentage of women who experience post partum depressive symptomatology. The terms psychological distress, and emotional disequilibrium and depressive symptomatology are used interchangeably in the literature.

The variety of information on postpartum depression is available in literature sources from medicine, psychiatry, social work and nursing. Nicolson (1990) studied findings on the causes and correlates of postpartum depression. "The clinical/medical model identifies the mothers as being ill, and the social science model suggests a particular vulnerability to additional social stress factors" (Nicolson, 1990, p.689).

Sequin et al. (1995) studied women's depression and

Sequin et al. (1995) studied women's depression and economic status. It was determined that women with a lower socioeconomic status were depressed more frequently and more severely than women with a higher socioeconomic status. Tilden (1983) studied life stress, functional social support and emotional disequilibrium in pregnant women during pregnancy.

O'Neil, Murphy, and Greene (1990) studied the prevalence of postnatal depression in 142 women at six weeks post partum using the Cox Edinburgh Postnatal Depression Scale. Thirty eight women scored positive depression and 28 were followed by a psychiatrist. Of the 28, 20% showed a prevalence of post natal depression. Past psychiatric history was found to be a significant risk factor and there was an association found between post natal depression and delivery by forceps, vacuum or cesarean section. Maternal age and breast feeding had no significant relationship.

Tilden (1983) found the effect of functional social support on emotional disequilibrium was significant. This percentage was similar in magnitude to the studies by Lin, Ensel, Simone and Kuo (1979). Lin et al. (1979) studied life stress and functional social support as determinants of (emotional distress) in 170 Chinese-Americans in Washington D.C. and found a positive relationship between life stress and the incidence of symptoms of depression. Significant negative relationships were identified between social support and the incidence of psychiatric symptoms by

Lin et al. (1979).

Reece (1993) studied functional social support in primiparas over 35 years of age and found that functional support increased with support provided by a spouse/partner both antenatal and post partum. Family and friends followed in the amount of functional support; network support did not change. The social support of spouse, family and friends was associated with lower stress post partum.

"Life events as well as inadequate functional social support have been linked to depression in mothers during pregnancy, in early post partum period and during the child's preschool years" (Sequin et al., 1995, p.583). Studies suggest that functional social support may protect psychological well being and mental health by acting as a buffer against stress (Sequin et al., 1995). The literature reviewed indicated a connection between functional social support and depressive symptomatology (Tilden, 1983; Lin et al., 1979; Reese, 1993). The extent to which these factors are influenced by one another is not documented. Change in one concept affects the other but how has not been studied.

Critique

One limitation noted in these studies identified in the literature review section, is some research utilized small sample size. Larger samples enable researchers to generalize study results and encourage the replication of the studies to increase the credibility of the findings. The literature search did not review any studies

differentiating the different types of post partum depressive symptoms. The levels of depression range from post partum blues to psychosis. The components of post partum depression need to be individually evaluated on what effect they have on women.

There is a lack of literature on prenatal depression. The information comparing hormonal changes during pregnancy and similarities with depressive symptomatology is lacking. Pregnancy depression is easily missed in pregnancy and a way to evaluate this problem effectively is lacking. There is no literature looking at multiple factors influencing pregnancy and how they relate to depressive symptomology.

The study by Sequin et al.(1995) identified low income women as having increased depression. The literature indicates the need to study depression and low income women and women with different cultural backgrounds. Low income women are not identified in many studies as the target population. Some studies have identified a relationship between low income status and an increase in depression scores. The low income women make up a component of the general population and their needs should be studied as a part of the community. If the results of studies are to be generalized to the total population one segment can not be overlooked.

There is a gap in the literature on the use of terms such as depression, social support and the time estimated for post partum. These should have a consistent definition

to enable research to develop data that is accurate. Researchers using definitions they define for these concepts enable the general researcher to have no constant variable. This would lead information to not be consistent and possible be evaluated incorrectly.

This study will fill in the gap relating depressive symptomatologies to the amount of social support. The value of this information will affect the assessments and evaluations made of pregnant and newly delivered women. The relationship of these variables can have a direct effect of care.

THEORETICAL FRAMEWORK

Functional social support deals with interactions of family, friends and organizations with whom the person identifies. The effect of functional social support on depressive symptoms involves the person's perceptions of the amount of support obtained. These concepts deal directly with interactions. The theoretical framework developed by King (1981) is composed of three interacting systems. The systems are personal, interpersonal and social. This study was dependent on the interaction of the person with the social network as they defined it, and how this related to depressive symptomatology at two points in time. Interaction is an open system allowing transfer of information both ways within the framework. Personal systems can interact with social systems. Interpersonal systems can interact with both the personal and social

systems. The interactions can be in either direction allowing change to occur within each level of the framework.

Personal System

In King's framework for nursing (Figure 1) the inner-most system is the personal system of the pregnant or post partum woman; the individual person with all the fears, worries, hopelessness, appetite losses and other depressive symptomatology that may occur. The woman's body and roles are changing in this system. The system allows for changes in the person, happy, sad, pregnant, not pregnant, and all the other feelings and emotions that make up the person. The changes that occur in depressive symptomatologies during the intrapartum and post partum time period also occur in this system.

"The concept of self is perceived in relation to another person and to objects with relevant others gives one a sense of self" (King, 1981, p.27). A new mother or pregnant woman is beginning to identify herself as a different person. The overwhelming feelings of joy and concern over parenting skills, can cause her to doubt her ability to care for the baby. This may change the woman's perception of self.

In the personal system positive influences of support from family and friends enable a person to achieve goals and to become self-actualized. Achieving goals and being self actualized would enable a person to move into parenthood easily and cope with changes. Negative influences by others

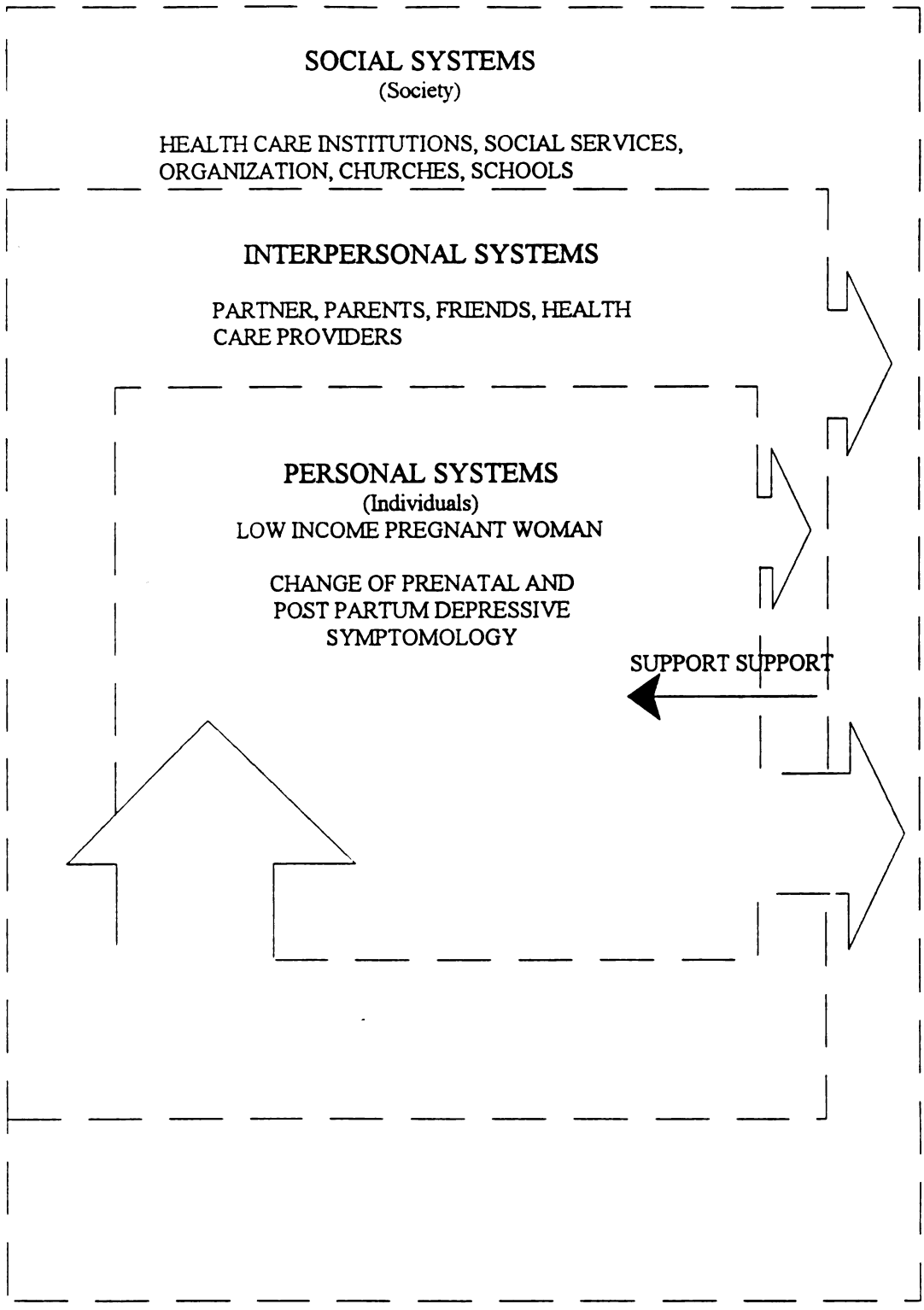

Figure 1: An adapted conceptual framework for nursing: dynamic interacting systems (King, 1971, p.20)

would be described as smoking or drinking alcohol during pregnancy, not keeping prenatal appointments or contributing to an unhealthy environment in which the individual resides. Negative influences can affect the role of parenting.

Influences whether positive or negative are perceived by the person. This perception of influences affect the person's ability to develop positive or negative beliefs or life styles. The way a person develops self is affected by others. Change in self from prenatal to post partum are affected by these influences. The perception of needed social support influence the person in the amount of support they receive. If the person does not desire the support of a partner or family, they will not feel they are being deprived of a personal need. However, if the person feels the need for social support is a contributing factor to the belief in self this will lead them to believe they are deprived of a support that can positively influence them. This deprivation of a personal need can then affect the emotional state of that individual.

Depressive symptomatology may be exhibited by the person who feels deprived of personal needs. Depression prenatally and post partum both are in the personal system (figure 1). Depression can affect the interpersonal and social systems by interactions in or between these levels. The primary system dealing with depression is the personal system.

Interpersonal System

In King's (1981) model, the interpersonal system consist of communication, transaction, roles, and stress. Communication is verbal and non verbal. A pregnant woman might perceive the need for communication about the pregnancy with significant others about the pregnancy. Expectations of the partner may include attendance at doctor appointments, getting excited about fetal movement, understanding her mood changes and having the same loving feelings about the pregnancy. The partner may be experiencing personal feelings of nervousness and apprehension over providing for the family, physical problems the baby may have, financial support for the added family member and a variety of other issues personal. The partner may not be aware of the pregnant woman's needs or desires. The reaction to these different feelings and emotions might cause mistrust or feelings of isolation in the pregnant woman.

The mother is both a giver and taker at different points in time. Roles change from situation to situation. Changes that occur in the personal system affect the interpersonal system. Increased depressive symptomatology in the personal system can affect a change in behavior with those individuals in the interpersonal system. The need for more interaction or less with partner, parents, friends or health care providers becomes evident with change.

The system of interpersonal relationships (Figure 1)

deals with the person's interaction with their network. The network for the low income pregnant woman is her partner, parents, friends, doctors, nurses, clergy and others. Each individual develops her own interpersonal system. This system may be very small, or very large depending on the individual. Interpersonal systems are the social support systems including parents, friends, partner, and health care providers. Constant interaction between personal systems and interpersonal systems occurs. This study does not look at the interventions of nurses that might occur with changes in functional social support and depressive symptomatology. Further study would need to be done for this to be addressed.

Social support begins in the personal system with the perception of need for support. The support then travels from the interpersonal system (Figure 1) to the personal system. This occurs at different levels for each person. Some women have a great deal of interaction between these two systems and others have very little interaction. The amount of exchange depends on the people in both systems. Does the woman desire interaction and are there people in the interpersonal system willing to provide support for the personal system?

The social support arrow in Figure 1 goes from interpersonal system to the personal only. This study does not address the social system. If the study did the arrow might fill all systems. For the purpose of this study

social support affects only two systems. These systems have a reciprocal relation. The woman must perceive the need for social support, and the interpersonal system must meet the needs of the personal system.

King's model enables a woman to look at the surroundings and utilize all elements of life events to affect self if desired. The woman has the ability to change perceptions and be an active participant in the changes that can occur. This process allows change to occur and the self to grow and accept the change in the surroundings.

Pregnancy is a time for change and evolution of self to different attitudes, beliefs and perceptions. A woman must undergo may changes when she becomes pregnant. First she must change from an unpregnant individual to a pregnant person and endure the changes that occur in this transition. Upon delivery she once again becomes the unpregnant individual, but not the same person as pre-conception.

King's model is appropriate for this secondary analysis. The social interactions that play a part in personal well being are utilized in this model. The model allows for assessment of the individual and the role interactions played in social support and the perceptions of depressive symptomatology. It also points out that the individual has the ability to interact and change according to the situation she find herself in; this is important when depression is being evaluated. Each individual is capable of dealing with issues unique to them; some are able to

change the environment around them and some are not.

King's model allows open exchange between systems that aid each person individually. One person may need more interaction and assistance than another. The model allows individuals the ability to gain what is needed specifically for personal growth.

METHODS

Research Design

The design utilized for this study was a descriptive correlational study. A secondary analysis approach was used to examine the relationship of changes in functional social support and depressive symptomatology from prenatal to post partum in low income women. The original data were collected in the study "Factors Influencing Pregnancy Outcome in Jackson Center for Healthy Beginnings, Jackson, Michigan" (Schiffman & Omar, 1994).

The original study was a prospective study using surveys and chart reviews. The original project was developed to determine the adequacy of prenatal care between women at the Jackson Center and those receiving care with other providers. Demographics affecting care were studied. Data were also obtained from women prenatally and post partum about family functioning, depression, social support, functional status and difficult life events.

Sample

The sample used in this study was a convenience sample of 37 subjects who completed the questionnaires on

functional social support and depressive symptoms at both the prenatal and postnatal visits. The subjects were enrolled to receive prenatal care between May 1992 and May 1993. The sample was primarily single and Caucasian women, with at least high school educations. The mean age of the 37 subjects was 22.6 years. Data were obtained prenatally at the second or subsequent prenatal visit and postnatally at the six week post partum visit.

INSTRUMENTS

Center for Epidemiologic Studies Depression (CES-D) Scale

The Center for Epidemiologic Studies Depression Scale (CES-D),found in appendix A, was developed to study the epidemiology of depressive symptomatology in the general population (Radloff, 1977). The scale has twenty items to measure current levels of depressive symptomatology, with emphasis on affective component and depressed mood (Radloff, 1977). The components of depressive symptomatology consist of depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, losses of appetite and sleep disturbance. Four items were worded positively to break tendencies toward response set as well as the ability to assess positive affect (or its absence).

CES-D scores correlate with the Zung Depression Scale, Beck Depression Scale, Hamilton Depression Rating Scale and the SCL-90 Depression Scale. Each item is rated by the respondent from zero to three on a scale of frequency of

occurrence of the symptoms during a one week time period (Radloff, 1977). The Likert type responses ranged from less than one occurrence per day, to symptoms occurring five to seven days a week. Total scores can range from 0-60 with the higher score indicating greater depressive symptomology. A score of 16 or greater indicates greater depressive symptomology as this approximates the 80th percentile and is an indicator for further assessment.

Internal consistency reliability using Cronbach coefficient alpha ranged from .84 to .85 obtained from three national samples (Radloff, 1977 found in Primomo, Yates & Wood, 1990). Internal consistency reliability coefficients have been reported to be .84 or higher across varying age, ethnic and racial groups (Breslau, 1985; Clark et al., 1981; Garrison, Addy, Jackson, McKeown & Waller, 1991; Radloff, 1977; Roberts et al., 1990). The Cronbach's alpha coefficients for the original study were .87 at the prenatal administration and .92 at the postpartum administration (Schiffman & Omar, 1994).

The reliability of the scale has been assessed on clinic populations (Craig & VanNatta, 1973; Weisman, Sholomskas, Pottenger, Prusoff, & Locke, 1977) and on respondents from a number of community studies (Comstock & Helsing, 1976; Radloff, 1977; Roberts, 1980). Roberts (1980) reported the scale as reliable when used in Spanish-speaking respondents when interviewed in English or Spanish, and that the factor structure of the scale is similar to

that for whites and blacks.

Content validity is based on the clinical relevance of the symptoms which comprise the items of the scale. Construct validity of CES-D is based on the known theory and epidemiology of depressive symptoms (Radloff, 1977). The CES-D scale has been tested and was found to be able to differentiate between diagnosed depressed and nondepressed subgroups (Radloff & Locke, 1986; Weissman et al., 1977). Three items in the CES-D scale that might be influenced by pregnancy (Item 2, poor appetite; Item 7, effort; and Item 11, restless sleep) did not demonstrate a different response than other items in the scale in the original study (Schiffman & Omar, 1994).

Norbeck Social Support Questionnaire (NSSQ)

The Norbeck Social Support Questionnaire (NSSQ), found in Appendix B, is an instrument to measure multiple dimensions of social support. The NSSQ developed by Norbeck, Lindsey and Carrieri (1981) is based on the conceptual definitions of social support proposed by Kahn (1979). The instrument has three variables based on Kahn's (1979) definition and Barnes' (1972) network theory. The variables identified are total functional support, total network support and total loss. This study utilized only the total functional support component. Functional support components measured are affect, affirmation and aid (Norbeck et al., 1981). The scores for functional components are derived from ratings made by the subject for each person

whom they identify in their personal network (Norbeck, Lindsey, Carriere, 1982). The instrument measures perceived support available to individuals rather than reciprocal support mentioned in Kahn's definition.

The first test and retest reveled a seven month moderately high test-retest reliability ranging from .58 to .78 (Norbeck & Tilden, 1983) indicating a moderately high degree of stability over time. The instrument has both high test-retest reliability and internal consistency reliabilities (Norbeck et al., 1982). The interval of one week test retest correlates with a high degree of test-retest reliability (from .85 to .92). The internal consistency coefficient was .88 and indicates homogeneity of the NSSQ instrument (Norbeck et al., 1982).

To test validity, the Marlowe-Crowne test of Social Desirability was administered with the NSSQ. The correlations of .01 to .17 ruled out socially desirable response (Norbeck et al., 1981). Concurrent validity is reported through significant positive correlations with the Personal Resource Questionnaire (Brandt & Weinert, 1981) which measures social support.

Operational Definitions of Variables

The variables for this study were depressive symptomatology and functional social support. Depressive symptomology was measured by the Center for Epidemiologic Studies Depression Scale (CES-D) (Appendix C)(Radloff, 1977). Schiffman and Omar (1994) stated that the total

scores of CES-D were calculated from responses with two or fewer missing data prenatally. The total CES-D score was obtained by reverse scoring the four positive affect items, obtaining a mean score and multiplying by 20 (the total number of CES-D items). This was done for both administrations, prenatal and post partum.

Change was identified by the total number of the score on the questionnaire there was no pre determined number that would identify the change. Change was determined by using the score obtained at the prenatal questionnaire and comparing that to the post partum score. Increase, decrease or no change was determined by the difference in these scores.

Functional social support was measured by the Norbeck Social Support Questionnaire (NSSQ)(Appendix B questions 1 through 6). These scores were based on adding a point for each "yes" answer in questions one through six on the NSSQ. The questions together equal the total functional support. The total score of functional support for this study was determined by adding the three components, affect, affirmation and aid scores together. The scores were then compared prenatally and post partum and subtracted to determine if the scores increased, decreased, or had no change at the post partum visit.

Data Collection

The data for the study were on a data disk provided by the investigators for the original study.

Data Analysis

The sample population was the 36 women that completed both the CES-D and NSSQ questionnaires at both the prenatal and post partum visits. Women in the original study, that were unable to complete these requirements were eliminated from this study.

Data analysis was done using the chi-square statistic with a 2x2 cross tabulation of depressive symptomology with functional social support. The statistical analysis was performed using SPSS-PC software. The chi-square significant level of .05 was set.

Protection of Human Subjects

The original study was approved by the University Committee on Research Involving Human Subjects (UCRIHS) of Michigan State University (Appendix A). Confidentiality was maintained in both the original and the present study. The identifying data for each subject were filed separately from the original data and were not available to this researcher. Information for this study was obtained on a computer disk. The data for this study were given assigned code numbers and this researcher had no access to the original identifiers. The present study was also approved by UCRIHS (Appendix A).

Assumptions

Certain assumptions were made for this study:

1. The women truthfully answered the questions on the questionnaires prenatally and post partum.

2. The original data were collected and entered

accurately.

3. Scores were not affected postpartum by the pre exposure to questions on the questionnaires prenatally.

4. All participants were able to read.

Limitations

Limitations were indicated as follows:

1. Sample size was small, if all the original participants finished the questionnaires the results may have been different. A small sample size decreases the generalizability of the results.

2. The pre-pregnant depression scores were not available for the individuals in the study to determine if that individual was depressed before entering the study.

3. The length of the NSSQ instrument may have decreased accuracy of answers, or increased the number of participants who did not finish the questionnaire, therefore altering the results of the study.

4. Post partum fatigue may have influenced the number of subjects completing the questionnaire and the study.

5. The respondents may have felt pressure to answer questionnaires to receive adequate care.

RESULTS

Demographics

The target sample for this study was taken from the original study, and met the criteria of those that completed both the prenatal and post partum questionnaires (Table 2). Of the 65 women who kept the post partum appointment 37 met

Table 2

Demographic Characteristics of Women with Complete and Incomplete Data

	complete n = 37 No. (%)	incomplete n = 28 No. (%)	total n = 65 No. (%)
AGE			
10-19	12(32.4)	10(35.7)	22(33.8)
20-29	20(54.0)	17(45.9)	37(56.9)
30-39	5(13.5)	1 (3.6)	6 (9.2)
RACE			
Caucasian	31(83.8)	21(75.0)	52(80.0)
African/Am.	5(13.5)	7(25.0)	12(18.5)
Hispanic	1 (2.7)	-	1 (1.5)
MARITAL STATUS			
single	25(67.6)	21(67.9)	44(67.7)
married/ cohabitating	6(16.2)	7(25.0)	13(20.0)
separated/ divorced	6(16.2)	2 (7.1)	8(12.3)
EDUCATION			
<high school	1(2.8)	1(3.6)	2(3.1)
some high school	12(33.3)	14(50.0)	25(40.0)
H.S Diploma/ GED	20(55.6)	9(32.1)	29(44.6)
some college	2 (2.7)	4(14.3)	6 (9.2)
assoc. degree	1 (2.7)	-	1 (1.5)
missing	1 (2.7)	-	1 (1.5)
INSURANCE			
medicaid	22(59.5)	21(75.0)	43(66.2)
cash	3 (8.1)	1 (3.6)	4 (6.2)
medicaid pending	12(32.4)	6(21.4)	18(27.7)
GRAVIDA			
one	16(43.2)	16(57.1)	32(49.2)
two	9(24.3)	2 (7.1)	11(16.9)
three	8(21.6)	3(10.7)	11(16.9)
four-six	4(10.8)	7(25.1)	8(12.3)

the criteria. Table 2 provides demographic data about women in the original data base comparing those who had complete and those who had incomplete data. The 37 women had a mean age of 22.6 years (SD = 5.5). In comparison, mean age of the 65 women was 21.6 years (SD = 4.6).

The 37 women did not differ from the 28 women (Table 2) who kept the post partum appointment but did not complete data for all variables. The exact reason for the missing data is unknown. It was beyond the scope of this study to evaluate the characteristics of those who did not complete the questionnaires.

Comparing the demographic data between the 65 women and the subset of 37 women would indicate that both groups are similar. Both groups are predominately single, primipara, Caucasian women with at least some high school education. Medicaid was indicated as the primary payer for the women's health care (Table 2). There was no analysis of characteristics of the women who did not keep the post partum appointment.

Findings

The original plan for data analysis was to have a 3x3 crosstabulation with three levels of functional social support and depressive symptomology, however analysis of the variables revealed only one subject in the 'no change' category (Table 3). This subject was eliminated from further analysis resulting in a 2x2 crosstabulation with two levels of functional social support, increase or decrease

and 36 subjects.

Table 3

Changes in Scores for Depression and Social Support from Prenatal to Post Partum (n = 37)

	Decrease	Increase	No change
DEPRESSIVE SYMPTOMS	19(51.4%)	18(48.6%)	none
SOCIAL SUPPORT	15(40.5%)	21(56.8%)	1(2.7%)

The mean and standard deviation of the variables depressive symptomology measured by the CES-D and functional social support measured by NSSQ are presented in Table 4. depressive symptomology was evaluated using the CES-D. Women with a score of 16 or above are considered to have depressive symptomology and should have further evaluation for clinical depression. On average the women in this study have scores above the 16 value at both the prenatal and post partum data points. There is an increase in the mean score prenatally to postnatally (see Table 4), this indicates a slight increase in depressive symptomatology after the birth of the baby. The mean for social support prenatally was 149.75 which provides an initial score to evaluate if an increase or decrease occurs in the post partum period. There was an increase in mean post partum social support

including an increase in variability identified in Table 4.

Table 4

Means and Standard Deviations of CES-D Scores and NSSQ Scores Pre and Post partum (n = 36)

	M	SD
CES-D Pregnant	19.69	10.79
CES-D Post Partum	20.26	13.63
NSSQ Pregnant	149.75	80.10
NSSQ Post Partum	176.42	124.98

The results of the 2x2 cross tabulation of change in depressive symptomology scores (increase or decrease) and change in functional social support (increase and decrease) are presented in Table 5. There was no significant proportional differences in the pattern of change by

Table 5

Cross Tabulation of Changes in Functional Social Support and Depressive Symptomatology for Prenatal and Post Partum (N = 36)

	Functional Social Support Decrease	Increase
Depression		
Decrease	10 (66.7%)	9 (42.9%)
Increase	5 (33.3%)	12 (57.1%)

$X^2(1, N = 36) = 1.99, p = .16$

proportional differences in the pattern of change by chi-square analysis. The results indicate that change in functional social support was not significantly associated with changes in depressive symptomatology in the post partum period for the women in this study.

DISCUSSION

The sample for this study were primarily single, Caucasian women on medicaid. Approximately one half of the subjects were primiparous and the remainder had two to four children. The literature included studies that looked at the different socio-economic class of women ranging from low income to high income. Minorities were identified more frequently in studies associated with lower income socio-economic classed. This study uses a Caucasian lower socio-economic sample which provides a different approach to women on medicaid. The sample in this study was not like those in the literature.

The sample size was small which resulted from a low response of the women completing the questionnaires at both the prenatal and post partum visits. Utilizing the post partum scores decreased the number of the sample from 137 women to 36 women. The purpose of this study was to see if change occurred from prenatal to post partum, so both scores were necessary for data analysis. More women had completed the prenatal questionnaire, but they had to be eliminated from this study due to incomplete data at post partum.

The post partum women who did not complete

questionnaires were not studied to determine the reason questionnaires were not completed. Some reasons that the questionnaires were not completed may be that the women did not returned for a post partum visit, or were not able to complete the questionnaires. Time constraints and family issues may have been influencing factors for not completing the questionnaires. Women who did not complete the questionnaires post partum may have altered the results of this study with the omission of their data. Had all the questionnaires been completed the results may have shown a significant relationship between the variables.

Depression symptoms have been identified in 17.3% of low income women to be in the moderate to severe level of depressive symptomology and 46.9% to be high in depressive symptomology (Sequin et al. 1995). This study found that on average the women scored above the 16 level which is the value at which further assessment is necessary. The mean scores were above 16 both in the prenatal and post partum periods, however, the standard deviations were large at both times as well. Zuckerman et al. (1989) found in their study of prenatal women that the mean CES-D scores were 18.6. Sequin et al. (1995), Zuckerman et al. (1989) and this study support that prenatal women score above the 16 value on the CES-D which indicates that women exhibit depressive symptomology in pregnancy. The scores for prenatal may be skewed due to the symptoms of pregnancy mimicking depressive symptomology and may reflect symptoms of depression which

existed before pregnancy.

An increase in social support would be expected after childbirth. Literature indicated that there is an increase in social support during pregnancy and post partum. Reece (1993) found that functional social support increased with support provided by spouse or partner, both prenatally and post partum. The increase in social support was associated with lower stress post partum. This study indicated an increase in functional social support in the post partum period of the women participating. The mean scores increased which indicates that the women perceived an increase in their functional social support. There were large standard deviations at both data points and particularly at the post partum testing indicating substantial variation among the women.

For the research question in this study the relationship between changes in depression and social support from prenatal to post partum, many women in this study identified a decrease in depression symptoms and a decrease in social support (Table 5). This was not the anticipated direction of change. The expected results would be a decrease in depression score and an increase in social support scores. It has been identified that women with inadequate functional social support are at risk for depression (Sequin et al. 1995). Lin et al. (1979) identified that an increase in social support caused a decrease in psychiatric symptoms. The results of this study

are not support by the literature. This may be due to the limited number of studies that address depression in the prenatal and post partum woman. The literature is even less evident concerning the low income women.

One of the major reason for this result is most likely how change was operationally defined. By not allowing small fluctuations to occur, no change was too strictly defined. Perhaps if change had been defined as a score above or below an appropriate range of scores for "no change" the results may have been different.

Functional social support may have influenced the results had each component (affect, affirmation, aid) been evaluated, rather than as a grouped variable. The results may have also been affected by the fact that the women were of different gravida status and had different expectations of the social support offered.

Another factor that may have influenced the results may be that all the women did not complete the questionnaire at both evaluation periods, a larger sample may have made a difference. Another group of women in this study had and increase in social support scores and an increase in depressive symptomology (n = 12) (see table 5). These results were also not expected but are the opposite of the group which identified a decrease in depressive symptomology and a decrease in social support. The expected results were with an increase in social support the depression scores would be lower.

King's (1981) model allows the interaction between the systems allowing the pregnant and post partum woman to develop a support system and access it as needed. The openness of the model enables the pregnant and post partum woman to change her social support as she desires and assists her with interpreting depressive symptomatology that affect her either in a positive or a negative way.

The arrow in the model goes from the interpersonal to the personal system. This should indicate that some change could occur being it negative or positive. No significant findings were identified in this study. The lack of significant findings may have been due to limitations of the study preventing the relationship to be identified. King's model can be utilized when interpreting functional social support and depressive symptomatology. The changes that were anticipated to occur did not, however, change can be utilized in this model. The model needs further testing to develop the relationship of change and the utilization of the model.

IMPLICATIONS

Practice

There was no significant change in depressive symptomatology but there were changes. Symptoms increased post partum but some of the women were already in the depressive state prenatally. The practice of APN is affected by these levels of depressive symptomology. If there is a probability that some woman are pregnant and

depressed, then there is a need for intervention. Depression during pregnancy increased in this study after delivery which may indicate continuation of a problem not addressed in the pregnancy. Women who are depressed are at greater risk for developing risk taking behaviors smoking, drinking, drugs or limited health care during pregnancy (Steer et al. 1992). These problems that can occur with depression indicate the need for the APN to intervene at the screening stage to develop plans of care. Depressive symptomatology can change either by decreasing or increasing. This is one area that needs to be evaluated in pregnancy and the APN is an appropriate care provider to do this evaluation.

There was no significant relationship identified between changes of social support and depressive symptomatology in this study. We can not assume then that by increasing social support women may have less depressive symptomology. The APN is committed to follow the clients closely to interpret problems that may occur with social support and the development of depressive symptomatologies.

Each woman needs to be assessed for both depressive symptomology and social support. This is a process that can be performed by the APN. The results of the assessment can then be utilized in the development of an individualized plan of care with the woman. Collaboration with other health care providers will provide the best comprehensive care possible. The variables depressive symptomologies and

social support may not be directly related, but each may be an important component for interventions for health care, especially depression. The relationship between depression and social support may have other multiple components and the variables examined for this study may not have been specific enough to evaluate.

This study indicated that a mean depressive score of greater than 16 existed in the prenatal evaluation. The mean score did increase in the post partum period upon completion of the questionnaires. A screening tool for possible depression in the pregnant patient needs to be developed. The CES-D can possibly be utilized if the questions in the CES-D that are similar to pregnancy symptoms are deleted. The scale would make it easier to determine variables that affect depressive symptomology in pregnancy. Once those variables are identified, screening can be done on those with depression scores above 16. The women can then be referred for diagnosis of depression, and a plan of care developed specific to the depressive symptoms in pregnancy. The tool would look closely at the pregnant woman specifically and could be utilized for referrals and determining women who need more intense, physician based care. Screening pregnant women provides identification of depression symptomology and enables the APN the ability to rule out clinical depression.

Social support is believed to be valuable for pregnant women. Knowledge of the social network provides the APN a

base for producing workable care plans and referrals. The APN can offer social support and referrals after evaluating the needs of the individual. The ability to do individual evaluations of the women increases the personalized plans of care. The APN can educate women according to data available. The APN can then implement plans of care with mutual goal setting with the women.

The role of educator for the APN is evolved from the research base of knowledge that enables the nurse to educate other nurses on the findings of research. These APN can then develop strategies of care for women with difficulties of depression in pregnancy. Social support issues can be addressed in the same manner.

This study did not find a significant relationship between social support and depressive symptomology. This does not indicate that these variables are not important to changes that occur in pregnancy. Pregnancy and delivery of a woman are times of change. APN's are needed to determine the causes of change to develop clinical guidelines for care. Once the variables that affect change in social support and depressive symptomology are identified, the relationship of positive or negative influences on pregnancy and post partum need to be identified.

Future Research

Data can be reanalyzed with a different definition of change. Clarifying the definition of change and allowing some fluctuations to occur may allow data to be interpreted

with significant findings. This study examined change as an increase, decrease or no change. A range should be set to determine if a change occurred and by what amount. Researchers replicating this study may choose a SD of $\pm$ 1 to evaluate the variability of the change in the variables. Social support needs a cut off score to start, then evaluate increase or decrease.

An average score may be necessary since one person may provide as much support as 20 individuals. Another may have only 2 people identified in their social support network for a score of 20 and another may have 20 people in their social support network for a score of 40. The individual with 20 helpers is not getting the support that is necessary. The woman being evaluated needs to be able to identify and differentiate actual support vs. perceived support. More specific information will eliminate other variables influencing results.

Changes in social support would be expected to increase after the birth of the baby. A decrease may occur from the lack of social support due to the desire of the client for no help, or the type of support is not considered as supportive by the client. The variables of functional social support may have multiple components and the search for definitions of these independent variables need to be identified for study.

Further studies should be specific to the gravida of the women. Women with a first pregnancy may be more

interested in a study and have more time to work with the researchers. Women with children at home tend to have less time and may not be as interested in participating in a study. Another problem with multiple births is it is unclear if these women need more or less social support. Nursing research needs to develop a shorter tool to be used when evaluating pregnant or post partum women. These tools should be standardized and an effective screening tool. Long tools can be difficult for a person to stay focused on and fatigue may play an important role in how a tool is interpreted by the client.

Increasing the sample size would add credibility to the data collected and make it more generalizable. The sample needs to be more heterogeneous. Base line depression evaluations need to be done. Symptoms of pregnancy can be very similar to depressive symptomatology and difficult for the woman to determine the difference. The women should be assessed for depressive symptomatology prior to pregnancy for a base line.

Further studies need to be done to determine if the changes between social support and depressive symptomatology are related. The literature available today implies there is a positive relationship between social support and depressive symptomatology. This study did not find a statistically significant difference.

Funding for research projects like this one are necessary to provide a research base for nurses to practice

in the community setting. Nurses with a research background may find answers to the questions found in this study and others. The availability of funding for research projects will lead to further publications of the research data. The increased knowledge of nurses would stimulate the need to replicate studies to validate findings.

A scale that is more specific to depression in pregnancy would identify a depression occurring in pregnancy, not pregnancy symptoms similar to depression such as crying, decreased appetite and increased sleep.

Summary

Literature implies there is a relationship between social support and depressive symptomology. There was no significant difference identified in this study. The major implication is that this should be researched further with clearer definitions of change. Another study using different social support tools, a larger sample size, and a revised definition of change is indicated.

The findings of this study do not alter the fact that the issues of social support and depression need to be addressed in the APN's practice. The depression scores of the pregnant and post partum women in the study indicate that these women require close evaluation.

APPENDICES

APPENDIX A

APPENDIX A

MICHIGAN STATE UNIVERSITY

OFFICE OF VICE PRESIDENT FOR RESEARCH
AND DEAN OF THE GRADUATE SCHOOL

EAST LANSING • MICHIGAN • 48824-1046

March 19, 1992

Mildred A. Omar, Ph.D.
Rachel F. Schiffman, Ph.D.
A-230 Life Sciences Bldg.

RE: FACTORS INFLUENCING PREGNANCY OUTCOME, IRB #92-115

Dear Drs. Omar and Schiffman:

The above project is exempt from full UCRIHS review. One of the Committee's members has reviewed the proposed research protocol and finds that the rights and welfare of human subjects appear to be protected. You have approval to conduct the research.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval one month prior to March 16, 1993.

Any changes in procedures involving human subjects must be reviewed by the UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to our attention. If we can be of any future help, please do not hesitate to let us know.

Sincerely,

David E. Wright, Ph.D.
Chair, UCRIHS

DEW/pjm

APPENDIX A

MICHIGAN STATE UNIVERSITY

OFFICE OF VICE PRESIDENT FOR RESEARCH
AND DEAN OF THE GRADUATE SCHOOL

EAST LANSING • MICHIGAN • 48824-1046

March 2, 1993

TO: Rachel Schiffman, Ph.D.
Mildred Omar, Ph.D.
A230 Life Sciences

RE: **IRB #:** 92-115
TITLE: FACTORS INFLUENCING PREGNANCY OUTCOME
CATEGORY: 1-C
REVISION REQUESTED: February 23, 1993
APPROVAL DATE: March 1, 1993

The University Committee on Research Involving Human Subjects' (UCRIHS) review of this project is complete. I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and methods to obtain informed consent are appropriate. Therefore, the UCRIHS approved this project including any revision listed above.

UCRIHS approval is valid for one calendar year, beginning with the approval date shown above. Investigators planning to continue a project beyond one year must seek updated certification. Request for renewed approval must be accompanied by all four of the following mandatory assurances.

1. The human subjects protocol is the same as in previous studies.
2. There have been no ill effects suffered by the subjects due to their participation in the study.
3. There have been no complaints by the subjects or their representatives related to their participation in the study.
4. There has not been a change in the research environment nor new information which would indicate greater risk to human subjects than that assumed when the protocol was initially reviewed and approved.

There is a maximum of four such expedited renewals possible. Investigators wishing to continue a project beyond that time need to submit it again for complete review.

UCRIHS must review any changes in procedures involving human subjects, prior to initiation of the change. Investigators must notify UCRIHS promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

If we can be of any future help, please do not hesitate to contact us at (517) 355-2180 or FAX (517) 336-1171.

Sincerely,

David E. Wright, Ph.D.
UCRIHS Chair

DEW:pjm

APPENDIX A

MICHIGAN STATE
UNIVERSITY

July 11, 1996

TO: Sandra L. Boomer
575 Whispering Oaks Dr.
Muskegon, MI 49442

RE: IRB#: **96-447**
TITLE: THE RELATIONSHIP OF CHANGES IN FUNCTIONAL SOCIAL SUPPORT AND DRESSIVE SYMPTOMOLOGY FROM PRENATAL TO POST PARTUM IN LOW INCOME WOMEN
REVISION REQUESTED: N/A
CATEGORY: 2-H
APPROVAL DATE: 07/10/96

The University Committee on Research Involving Human Subjects'(UCRIHS) review of this project is complete. I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and methods to obtain informed consent are appropriate. Therefore, the UCRIHS approved this project and any revisions listed above.

RENEWAL: UCRIHS approval is valid for one calendar year, beginning with the approval date shown above. Investigators planning to continue a project beyond one year must use the green renewal form (enclosed with the original approval letter or when a project is renewed) to seek updated certification. There is a maximum of four such expedited renewals possible. Investigators wishing to continue a project beyond that time need to submit it again for complete review.

REVISIONS: UCRIHS must review any changes in procedures involving human subjects, prior to initiation of the change. If this is done at the time of renewal, please use the green renewal form. To revise an approved protocol at any other time during the year, send your written request to the UCRIHS Chair, requesting revised approval and referencing the project's IRB # and title. Include in your request a description of the change and any revised instruments, consent forms or advertisements that are applicable.

PROBLEMS/ CHANGES: Should either of the following arise during the course of the work, investigators must notify UCRIHS promptly: (1) problems (unexpected side effects, complaints, etc.) involving human subjects or (2) changes in the research environment or new information indicating greater risk to the human subjects than existed when the protocol was previously reviewed and approved.

If we can be of any future help, please do not hesitate to contact us at (517)355-2180 or FAX (517)432-1171.

Sincerely,

David E. Wright, Ph.D
UCRIHS Chair

DEW:bed

cc: Rachel F. Schiffman

OFFICE OF
RESEARCH AND GRADUATE STUDIES

University Committee on Research Involving Human Subjects (UCRIHS)

Michigan State University
232 Administration Building
East Lansing, Michigan
48824-1046

517/355-2180
FAX: 517/432-1171

APPENDIX A

February 20, 1997

Dawn S. Gruen MSW, ACSW
Canal Park Building
222 Etruria
Suite 130
Seattle, Washington
98109

Dear Ms. Gruen,

I am a student in the Masters of Nursing Program at Michigan State University. I am developing my thesis on depression in pregnancy and the effect of social support. I would like to use the table "Symptoms of Problems in Postpartum Adjustment." found in an article written by you. The article is Postpartum Depression: A Debilitating Yet Often Unassessed Problem, found in Health and Social Work Volume 15, Number 4, November 1990.

I plan to utilize the information in this table to delineate the differences in postpartum blues, depression and psychosis. Thank you for taking the time to reply.

Sincerely,

Sandra Boomer

Sandra Boomer
Nurse Practitioner Candidate

Sandra Boomer
575 Whispering Oaks Dr.
Muskegon, Michigan
49442

Dear Sandra -
It is fine to use the chart for your thesis. Good luck on your work.

Sincerely, Dawn S. Gruen, MSW

APPENDIX B

APPENDIX B

SOCIAL SUPPORT QUESTIONNAIRE (A)

PATID9 _ _ _
0 9
4 5

PLEASE READ ALL DIRECTIONS ON THIS PAGE BEFORE STARTING.

Please list each significant person in your life on the right. Consider all the persons who provide personal support for you or who are important to you.

Use only first names or initials, and then indicate the relationship, as in the following example:

Example:

	First Name or Initials	Relationship
1.	MARY T.	FRIEND
2.	BOB	BROTHER
3.	M.T.	MOTHER
4.	SAM	FRIEND
5.	MRS. R.	NEIGHBOR

etc.

Use the following list to help you think of the people important to you, and list as many people as apply in your case.

- spouse or partner
- family members or relatives
- friends
- work or school associates
- neighbors
- health care providers
- counselor or therapist
- minister/priest/rabbi
- other

You do not have to use all 24 spaces. Use as many spaces as you have important persons in your life.

WHEN YOU HAVE FINISHED YOUR LIST, PLEASE TURN TO PAGE 2.

APPENDIX B

For each person you listed, please answer the following questions by writing in the number that applies.

1 = not at all
2 = a little
3 = moderately
4 = quite a bit
5 = a great deal

Question 1: How much does this person make you feel liked or loved?	Question 2: How much does this person make you feel respected or admired?
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____
6. _____	6. _____
7. _____	7. _____
8. _____	8. _____
9. _____	9. _____
10. _____	10. _____
11. _____	11. _____
12. _____	12. _____
13. _____	13. _____
14. _____	14. _____
15. _____	15. _____
16. _____	16. _____
17. _____	17. _____
18. _____	18. _____
19. _____	19. _____
20. _____	20. _____
21. _____	21. _____
22. _____	22. _____
23. _____	23. _____
24. _____	24. _____

(8-10)

GO ON TO NEXT PAGE

(11-13)

APPENDIX B

1 = not at all
2 = a little
3 = moderately
4 = quite a bit
5 = a great deal

Question 3:

How much can you confide in this person?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____

(14-16)

Question 4:

How much does this person agree with or support your actions or thoughts?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____

(17-19)

GO ON TO NEXT PAGE

APPENDIX B

1 = not at all
2 = a little
3 = moderately
4 = quite a bit
5 = a great deal

Question 5:

If you needed to borrow $10, a ride to the doctor, or some other immediate help, how much could this person usually help?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____

(20-22)

Question 6:

If you were confined to bed for several weeks, how much could this person help you?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____

(23-25)

GO ON TO NEXT PAGE

9. During the past year, have you lost any important relationships due to moving, a job change, divorce or separation, death, or some other reason? [57]

_____ 0. No
_____ 1. Yes

IF YES:

9a. Please indicate the number of persons from each category who are *no longer available* to you.

_____ spouse or partner [58]
_____ family members or relatives [59-60]
_____ friends [61-62]
_____ work or school associates [63-64]
_____ neighbors [65-66]
_____ health care providers [67]
_____ counselor or therapist [68]
_____ minister/priest/rabbi [69]
_____ other (specify) _____ [70] [71-72]

9b. Overall, how much of your support was provided by these people who are no longer available to you? [73]

_____ 0. none at all
_____ 1. a little
_____ 2. a moderate amount
_____ 3. quite a bit
_____ 4. a great deal

APPENDIX C

APPENDIX C

PAT IDS ___
1 2 3
05
4 5

CES-D Scale (A)

Circle the number for each statement which best describes how often you felt or behaved this way — DURING THE PAST WEEK.

DURING THE PAST WEEK:	Rarely or None of the Time (Less than 1 Day)	Some or a Little of the Time (1-2 Days)	Occasionally or a Moderate Amount of Time (3-4 days)	Most or All of the Time (5-7 Days)	
1. I was bothered by things that usually don't bother me	0	1	2	3	(6)
2. I did not feel like eating; my appetite was poor	0	1	2	3	(7)
3. I felt that I could not shake off the blues even with the help from my family and friends	0	1	2	3	(8)
4. I felt that I was just as good as other people	0	1	2	3	(9)
5. I had trouble keeping my mind on what I was doing	0	1	2	3	(10)
6. I felt depressed	0	1	2	3	(11)
7. I felt that everything I did was an effort	0	1	2	3	(12)
8. I felt hopeful about the future	0	1	2	3	(13)
9. I thought my life had been a failure	0	1	2	3	(14)
10. I felt fearful	0	1	2	3	(15)
11. My sleep was restless	0	1	2	3	(16)
12. I was happy	0	1	2	3	(17)
13. I talked less than usual	0	1	2	3	(18)
14. I felt lonely	0	1	2	3	(19)
15. People were unfriendly	0	1	2	3	(20)
16. I enjoyed life	0	1	2	3	(21)
17. I had crying spells	0	1	2	3	(22)
18. I felt sad	0	1	2	3	(23)
19. I felt that people disliked me	0	1	2	3	(24)
20. I could not get "going"	0	1	2	3	(25)

APPENDIX D

APPENDIX D

Procedure for Data Collection

The procedure was reviewed from the original study at the Center for Healthy Beginnings.

1. Subjects will be approached in the waiting room at their first prenatal visit (T-1) by the data collector. The project will be explained and informed consent obtained.
2. At the first visit (T-1) after consent is obtained the data collector will:
    a. Assist subjects to complete the Motivation to Seek Prenatal Care Instrument (10 item check list).
    b. Record sociodemographic and psychologic data from the subjects record on the data collection form.
    c. Mark the subject's record and the data collection form for the next scheduled visit.
3. At the next scheduled visit (T-2) the data collector will (n=137):
    a. Administer the CES-D and NSSQ in a room separate from the examination and waiting rooms.

APPENDIX D

b. Answer subject's questions for clarification of instructions and meanings of words only.

c. Mark the record and data collection form for the postpartum visit.

4. Data collector will then check weekly listings of subjects who have delivered to verify the date of the post partum visit.

5. At the post partum visit (T-3) the data collector will: (n=137)

a. Administer instruments NSSQ and CES-D in a room separate form the examination and waiting rooms.

b. Answer subject's questions for clarification of instructions and meaning of words only.

c. Record additional variables on collection form.

6. The data collector will remove all project identification from the client record.

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