

WOMEN WITH COMPLICATED AND UNCOMPLICATED PREGNANCIES:  
THEIR MOTHERS' REPRODUCTIVE HISTORIES AND  
THEIR RELATIONSHIPS WITH THEIR MOTHERS

by

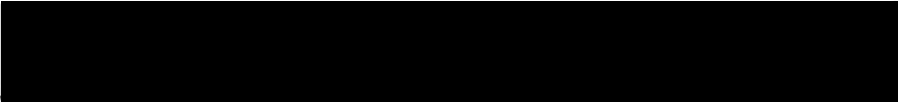
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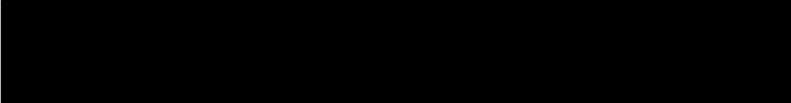
A Thesis


Presented to  
Oregon Health Sciences University  
School of Nursing  
in partial fulfillment  
of the requirements for the degree of  
Master of Nursing

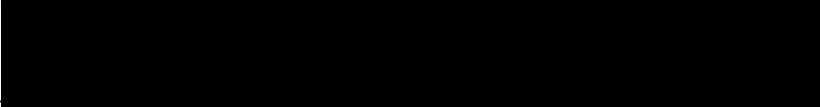
June 1985

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This study was supported by traineeships from the United States Public Health Service Grant Numbers 2 ALL NU00250-07 and 2 ALL NU00250-08.

#### ACKNOWLEDGEMENTS

I wish to thank my thesis committee members, Carol Howe and Louise Martell, and especially my thesis advisor, Mary Ann Curry, for their encouragement, guidance, and patience with my efforts throughout this research endeavor. I deeply appreciate all who facilitated the various steps of the process, the heads of the postpartum units who allowed me to interview women in their departments, the women who agreed to be interviewed, and the knowledgeable staff of the Department of Research Development and Utilization. Most of all, my thanks goes to my husband for his unflagging support and sense of balance.

This volume is lovingly dedicated to my mother who first taught me to listen to my heart, then taught me the persistence and fortitude to follow my dreams.

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## CHAPTER I

One of the functions of health professionals who provide maternity care is to detect the presence of risk factors associated with the childbearing process for each woman. Potential complications can often be eliminated, minimized, or cared for most expediently when health professionals are alert to the possibility of a woman developing specific complications.

This study was designed to investigate the potential impact of the mother/daughter relationship on the daughter's pregnancy. Inquiry focused on two questions: Is there a relationship between women's childbearing experiences and their mothers' reproductive histories? Is there a relationship between women's childbearing experiences and their past or present relationships with their mothers?

Both the lay and professional folklores surrounding the birth process suggest that the profound influence of the mother/daughter relationship extends to the realm of childbearing. One common assumption is that the courses of women's pregnancies tend to mimic their mothers'. Some complications of pregnancy, for example, diabetes mellitus and pregnancy induced hypertension, are known to be hereditary to some extent. Many other variables such

as length of gestation or difficulty in labor are sometimes attributed to inherited factors, though these possible relationships are undocumented.

Another common assumption is that the quality of the woman's past or present relationship with her mother may enhance or hinder the course of her pregnancy. Helene Deutsch (1945) observed in her practice of psychoanalysis that "the pregnant woman's relation to her mother...is at the center of the psychologic problems of pregnancy and the whole reproductive function" (p. 141). Deutsch related several cases of pregnant women in whom severe unresolved ambivalence in relation to their mothers preceeded a miscarriage, stillbirth, or neonatal death. She concluded that "the fate of the identification with the mother is a factor that determines the course of pregnancy" (p. 145).

All women have or had mothers, at least biologically. Most were raised, at least in part, by mothers or mother figures. Most mothers or mother figures are still alive at the time of their daughters' childbearing and thus sustain some sort of relationship with them. Despite the universal presence of mother/daughter relationships, there is a dearth of research addressing the possible implications of these relationships for daughters' childbearing.

Women who were hospitalized antenatally were the subjects of

a recent study conducted by Curry (1985) of the Oregon Health Sciences University. These women were experiencing complications of pregnancy or medical conditions exacerbated by their pregnancies. Extensive interviews with these pregnant women during their hospitalizations generated descriptive data concerning background variables and the impact of hospitalization on the women's lives and the function of their families. The interview also included questions concerning the subject's relationship with her mother and her mother's reproductive history. The number of women reporting that their mothers had had reproductive difficulties was surprisingly high, though comparative data were unavailable.

This study collected the same data from a group of women who had uncomplicated pregnancies. These data were compared with Curry's data on women with complications in order to investigate the potential impact of the mother/daughter relationship and the gravida's mother's reproductive history, on the daughter's pregnancy.

This study provides direction for further research in an area which is of relevance to nurse-midwives, nurse practitioners, nurses and physicians providing prenatal care, prenatal education and counseling, and antepartum care. Suggestions for research to clarify the findings of the study, to develop effective screening

tools, and to develop methods of intervention will be discussed.

### Review of the Literature

Few studies were found in the literature in which complications of daughters' pregnancies were the outcome variables. Therefore, the review includes studies of other aspects of daughters' reproductive function which may relate to their mothers' reproductive histories or daughters' relationships with their mothers. Consideration of mental or emotional illness resulting in hospitalization has been excluded.

The first section examines the potential influence of the gravida's mother's reproductive history on complications of daughters' childbearing. The second section discusses the possible impact of the mother/daughter psychological relationship on the daughter's childbearing. The daughter's relationship with her mother during her childhood and adolescence, as well as at present, will be discussed.

#### Potential Influence of the Mother's Reproductive History

Curry (1985) found that approximately 22% of the women in her sample ( N =124) were hospitalized with conditions recognized to be heritable to some extent. The complications accounting for almost all of that 22%, pregnancy induced hypertension, multiple gestation, and diabetes mellitus, will be reviewed here. Other

disorders which are considered to be both familial and of possible significance for women's pregnancies include hypertension, cardiovascular disorders, hematologic disorders, metabolic disorders, epilepsy, allergies, kidney disease, and malignancy. As these conditions are either very rare or rarely result in antenatal hospitalization, they will not be included in the review.

The research of Uddenberg and Fagerstrom (1976) which related several other symptoms of reproductive difficulty in mothers to complications of pregnancy in daughters will be presented. Finally, a report of Curry's (1985) findings on the reproductive histories of the mothers of women with complicated pregnancies will conclude the section.

Pregnancy induced hypertension. Chesley, Amitto, and Cosgrove (1968) traced more than 96% of the grown daughters of women who had had eclampsia in one hospital between 1931 and 1952. By retrospective hospital chart review, the researchers analyzed the 426 pregnancies of 187 daughters born to 122 eclamptic women. Eighty-nine daughters-in-law served as controls. "Toxemia" in the daughters and daughters-in-law was defined as sustained hypertension, proteinuria, and edema recorded on labor and delivery records. In first pregnancies, the incidence of toxemia was 26% among the daughters and only 8% in the daughters-in-law, a

significant difference. Comparison of the daughters born of eclamptic pregnancies with daughters born in pregnancies before or after the maternal eclampsia showed no significant difference in incidence of toxemia: 29% and 24% respectively. Chesley et al. also compared the incidence of toxemia in daughters of eclamptic women who are now hypertensive and the daughters of eclamptic women who are now normotensive. Finding no difference, they suggested that the familial tendency to develop toxemia is at least partly independent of the tendency to develop essential hypertension. The data of Chesley et al. support the model of Mendelian recessive inheritance of "toxemia" in cases in which the mother was eclamptic.

Cooper and Liston (1979) collected data on the mothers and sisters of 253 primigravid women who manifested severe preeclampsia in one hospital in Scotland during a designated period. Severe preeclampsia was defined as proteinuria exceeding 0.25 g/L with either a rise of diastolic blood pressure to greater than 90 mm Hg after the 26th week of pregnancy on two occasions at least one day apart, or a progressive increase of diastolic blood pressure during labor. Although the subjects were preeclamptic, not eclamptic, Cooper and Liston obtained results consistent with those of Chesley et al. (1968). However, they were unable to rule out the possibility that the fetal genotype also plays a role in

the etiology of severe preeclampsia.

In an effort to distinguish between a maternal genotype hypothesis and a fetal genotype hypothesis, Sutherland, Cooper, Howie, Liston, and MacGillivray (1981) compared the mothers and mothers-in-law of 237 severely preeclamptic women. They utilized the definition of preeclampsia previously used by Cooper and Liston (1979) as specified above. The incidence of severe preeclampsia in the mothers of the index cases was 15.9%, more than three times that found in the mothers-in-law (4.4%). A similar incidence (4.2%) was found among all the relatives of a group of controls, a matched group of women who did not have preeclampsia. Although these data strongly point toward maternal recessive rather than fetal recessive inheritance of severe preeclampsia, the authors emphasized that multifactorial etiologies could not be precluded.

The data of both Cooper and Liston (1979) and Sutherland et al. (1981) suggested that mild preeclampsia, that is, increased blood pressure without proteinuria, and severe preeclampsia are inherited independently. Mothers and sisters of normal women were as likely to have had mild preeclampsia as the mothers and sisters of severely preeclamptic women.

To summarize, the available literature indicates that the daughter of a mother who developed severe preeclampsia or

eclampsia in any pregnancy is approximately three to four times more likely to develop severe preeclampsia than the daughter whose mother did not suffer those conditions. If, however, the mother manifested only mild preeclampsia, the daughter's risk does not appear to be significantly increased.

Multiple gestation. Monozygotic twinning is not currently viewed as a familial trait. The daughters of mothers who have borne monozygotic twins are no more likely to produce twins than women in the general population, a principle which appears to be uniformly true, the world around.

In contrast, dizygotic twinning has been shown to be influenced to some extent by heredity. The large surveys of caucasian women conducted by Bulmer (1960) and White and Wyshak (1964) found that daughters of mothers who had given birth to dizygotic twins were approximately twice as likely to bear twins as women whose mothers had not. The daughters' status as being a twin or having twin siblings made no difference in their rate of twinning.

However, the generalizability of the individual "risk" of twinning reported by these studies is limited. For example, the rate of twinning is known to vary greatly among races, from 1.5 twin births per 1,000,000 births in Japan, to 5 per 100 in an area of Nigeria (cited in Pritchard, MacDonald, & Gant, 1985).



In conclusion, dizygotic twins and their sisters are more likely to produce twins than women in the general population. However, the risk of twinning is influenced by many other factors (e.g., maternal age, parity, race, and fertility drugs). No studies were found documenting the incidence of the production of three or more fetuses as a family trait.

Diabetes mellitus. As this review focuses on the gravida's mother's reproductive history, it is important to note that while diabetes may be present in her mother's medical history, it may or may not have complicated her mother's reproductive history. The incidence of pregnancy complicated by diabetes in both daughter and mother is unknown.

The familial aggregation of diabetes has been recognized for centuries, and it is now clearly understood that the manifestation of the familial component of diabetes is due to both genetic and behavioral factors. Although the last half century has generated an increased understanding of diabetogenic factors, predicting the relative risk of developing diabetes for any specified individual remains a challenge.

Simpson (1968) calculated estimates of risks from the data on the first-degree relatives of 6600 diabetics in an eastern Canadian population. She documented that the risk of developing diabetes for daughters of mothers who had diabetes was

significantly increased compared to a group of controls. Depending on whether the mother's diabetes was adult onset or juvenile onset, the daughter's relative risks of developing juvenile onset diabetes were 5 or 22 times greater, respectively. The daughter's risk for developing adult onset diabetes was only twice that of the controls when the mother's diabetes was adult onset. No data were available on the risk of adult onset diabetes for the daughter of a mother with juvenile onset diabetes. Simpson's data support the current view that adult onset and juvenile onset diabetes are inherited via independent mechanisms.

The risk of children developing diabetes appears to be even higher when both parents are diabetic, though these families are so uncommon that gathering sufficient data has been difficult. In a small sample, Simpson (1968) found a threefold increase of risk for diabetic children from conjugal matings compared to that for children from one diabetic parent, corroborating results previously published by Cooke, Fitzgerald, Malins, & Pyke (1966) which were also based on a small sample.

Ramoin (1971) points out that although the relative risk for the child of a juvenile onset diabetic to develop juvenile diabetes is 22 times greater than that of the general population, the absolute risk is still quite small (approximately 3%) since juvenile diabetes is a relatively uncommon disease. Also, the

generalizability of these figures is limited, as marked ethnic variability in the prevalence and clinical features of diabetes has been well documented (Ramoin, 1969).

In summary, the daughter of a diabetic mother is at somewhat higher risk of developing diabetes than women in the general population. However, genetic counseling for any one woman remains difficult. Women who do develop diabetes and become pregnant are more likely to develop prenatal complications requiring hospitalization than pregnant women who do not have diabetes. The diabetogenic effects of pregnancy and the complications of pregnancy in diabetic women are well outlined in the literature (White, 1974).

Reproductive conflict. Uddenberg and Fagerstrom (1976) conducted a study of 77 primiparas, randomly selected from a clinic population, and their mothers. Utilizing the Reproductive Conflicts (RC) scale (Uddenberg, 1974), the researchers interviewed the mothers during their daughters' pregnancies. They obtained information concerning eight parameters of the mothers' reproductive histories. Two were related to menstrual difficulties, severe dysmenorrhea and irregular menses. Three related to the pregnancy from which the daughter had been born, severe nausea or total absence of nausea during pregnancy, difficult or very painful delivery, and postpartum mental

disturbance. The three other items were repeated episodes of aversion for coitus, more than one year of involuntary sterility, and spontaneous abortion. The investigators interpreted these phenomena as symptoms of "reproductive conflict" or "reproductive maladaptation".

The daughters were divided into two groups on the basis of the mothers' reported number of conflict symptoms. One group ( $n = 37$ ) contained women with mothers scoring over the median on the RC scale (3 or more of the above symptoms, or "RC+"). The other group ( $n = 40$ ) was composed of women having mothers with relatively few symptoms (0 through 2 RC symptoms, or "RC-"). When all of the daughters had delivered, the two groups were compared on five indices of obstetrical complications: "toxemia", defined as blood pressure greater than 130/90 in the presence of albuminuria and edema; prematurity, that is, birth before 37 weeks gestation; postmaturity, that is, birth after 42 weeks gestation; premature rupture of membranes which the authors defined as "rupture before the start of active labor" though they did not define "active labor"; and malpresentation of full-term fetus which included breech presentation. One or more of the above conditions were observed in 58% of the daughters of RC+ mothers, but only 17% of daughters of RC- mothers, a highly significant difference.

This study is relevant to the present research because three of the above complications, toxemia, premature labor, and premature rupture of membranes, render a woman at risk for prenatal hospitalization. When the two groups of women were compared on each of these three factors separately, toxemia and premature rupture of membranes were significantly overrepresented among daughters of RC+ mothers. Premature labor was more common among daughters of RC+ mothers, but the difference was not statistically significant.

Unfortunately, Uddenberg and Fagerstrom did not report further analysis of the data determining the influence of each of the mothers's symptoms independent of the others. It is also important to note that for the purposes of their study, the items in the RC scale that relate specifically to pregnancy referred only to the pregnancy which produced the daughter participating in the study. No items elicited data about the mother's other viable pregnancies. There are some factors of the gravida's mother's obstetrical history which may be significant regardless of which of the mother's pregnancies was affected, for example, pregnancy induced hypertension, multiple gestation, and diabetes mellitus which were discussed above.

In her interviews of women hospitalized antenatally, Curry (1985) asked questions concerning the subjects' mothers'

reproductive histories. Data analysis revealed that 43% of daughters reported that their mothers had had heavy periods, 43% reported mothers' spontaneous abortions, 32% reported mothers' difficulty carrying a pregnancy, and 31% reported mothers' difficult deliveries. Although the Curry study did not include a control group for comparison, it may be noted intuitively that these figures seem high.

Summary. Pregnancy induced hypertension, multiple gestation, and diabetes mellitus, when present in the gravida's mother's history, may increase the likelihood that the woman may be hospitalized with complications during her pregnancy. Uddenberg and his associates have suggested some diverse factors of the woman's mother's reproductive history which may also be significant and meaningful when the Reproductive Conflict scale is administered, but the influence of the individual factors remains unknown. Preliminary analysis of Curry's data appeared to support Uddenberg's work, but indicated the need for further research to determine the significance of her findings.

#### Potential Influence of the Mother/Daughter Relationship

It is now recognized that disordered somatic function may be a reflection of psychic or emotional upset or stress. One may assume this to be as true during pregnancy as at other times. Because pregnancy is a time of transition to parenthood, which

occurs emotionally and cognitively as well as physically, researchers have examined intrapsychic content, especially conflict, as the source of some physical disorders related to reproduction.

Some theorists have suggested that conflict in the reproductive sphere may be strongly related to the woman's early relationship with her mother (Benedek, 1970; Deutsch, 1945; Rheingold, 1964). Others have focused on the mother's function as a role model of mothering in the young daughter's processes of identification, which may be significant in the daughter's subsequent adaptation to motherhood (Ballou, 1978; Bandura & Walters, 1969; Mussen & Rutherford, 1963). During pregnancy, women have been observed to "reopen" issues regarding their relationships with their mothers, to heighten contact, and to resolve conflict, apparently as part of the process of adaptation to motherhood (Deutsch, 1945; Lederman, 1984; Rubin, 1967a, 1967b).

Daughter's childhood relationship with her mother. A few studies have examined the relationship of some components of the early mother/daughter relationship and physiological variables of the daughter's reproductive processes. Uddenberg, Nilsson, and Aimgren (1971) measured the degree to which 152 pregnant women perceived themselves as similar to their mothers and fathers. The

researchers interpreted perceived similarity to be a reflection of the success of the identification process in childhood, believed to be important to the daughter's subsequent healthy adaptation to pregnancy and motherhood. Women with high perceived similarity to mother, whether perceived similarity to father was high or low, tended to experience moderate nausea in pregnancy, which was considered to be "normal". When the daughter's perceived similarity to both her mother and her father was low, her likelihood of suffering hyperemesis during pregnancy was significantly increased. If the perceived similarity was low to her mother while high to her father, the daughter was more likely to experience only mild nausea during her pregnancy, but suffer difficult postpartum mental adjustment.

Uddenberg (1974) administered the Reproductive Conflict (RC) scale, mentioned previously, to 101 mothers during their daughters' pregnancies and to the daughters about one month after delivery. The delivery was the first for each of the daughters. To review, the scale's parameters included severe dysmenorrhea, irregular menses, severe nausea or total absence of nausea during pregnancy, distressing delivery, postpartum mental disturbance, repeated aversion for coitus, fertility difficulties, and spontaneous abortion. The correlation between number of RC symptoms in mother and daughter was weak and nonsignificant. The



investigator noted that the disparities in age and gravidity between mothers and daughters probably contributed to the lack of correlation. Nevertheless, this is an interesting finding in light of Uddenberg and Fagerstrom's 1976 study, described earlier, which found that daughters of mothers with many RC symptoms experienced a significantly increased incidence of certain obstetrical complications, regardless of their own RC scores, which were not measured in that study.

Continuing his 1974 study, Uddenberg examined the nature of the daughter's childhood relationship with her mother. In cases in which the mother was an important source of gratification and punishment during childhood by the daughter's report, the mother was said to have high social power. High social power in the mother during the daughter's childhood was found to be associated with a similar number of RC symptoms in the two generations, regardless of whether the mother had many or few RC symptoms. Conversely, when the mother's social power was low during the daughter's childhood, the daughter's number of RC symptoms did not correlate with the mother's, again regardless of whether the mother had many or few RC symptoms.

Both Uddenberg's (1974) and Uddenberg and Fagerstrom's (1976) findings support the idea that reproductive conflict or "style" may be transmitted between generations. The quality of the

mother/daughter relationship may be a mediating factor for the transmission of some aspects of reproductive function but not others.

Lederman (1984) proposes that availability and nurturance of the mother are key qualities fostering the daughter's early identification with the motherhood role and subsequent adaptation to motherhood. Lederman, Lederman, Work and McCann (1979) studied the relationship between a number of prenatal psychological variables and measures of anxiety and progress during labor. In interviews during the third trimester of the pregnancies of 32 primigravidas having uncomplicated pregnancies, they asked several questions related to the women's early relationship with their mothers. The information elicited by these questions was incorporated into two rating scales, progress in Identification with the Motherhood Role (IMORO) and quality of Relationship with Mother (RMO). Poor IMORO and poor RMO were significantly correlated with measures of decreased uterine contractility during the active phase of labor. Poor IMORO also correlated with prolonged labor and biochemical measures of increased anxiety during labor.

Thus, it appears possible that the early mother/daughter relationship may ultimately impact the processes of labor. However, Lederman et al. did not state what proportion of the

IMORO and RMO rating scales were based on the daughter's childhood relationship with her mother versus adult relationship with her mother. Furthermore, although they examined childbirth-related outcome variables, pregnancy complications or antenatal hospitalization were not among them.

In summary, several aspects of early mother/daughter relationship have been examined and found to relate to several components of the daughter's physiological reproductive function. Low perceived similarity to the mother and father, a result of childhood processes of identification, may be associated with hyperemesis gravidarum in the daughter's pregnancy. This was the only complication of pregnancy that could result in hospitalization that was addressed by the studies. However, research has indicated that social power and availability of the mother during the daughter's childhood may be related to other aspects of reproductive function, suggesting a possible role of these or other components of early mother/daughter relationship in physiological complications of pregnancy.

Daughter's adolescent relationship with her mother. While identification with role models, primarily the mother, may be seen as the primary "task" of a girl's childhood, her adolescent period is "characterized by a push for independence from parents and attempts to resolve conflicts between the continuing needs for

childish dependence and the desire for a separate identity" (Chilman, 1983, p. 2). Blos (1962) noted that "the prolonged and painful severance from the mother constitutes the major task of this period" (p. 66).

Chodorow (1978) emphasizes that adolescent girls in our society tend to remain attached to their mothers because of their mothers' role as primary caretaker and their mothers' ambivalence in separating from them. In other words, the developmental tasks of achieving separation and independence during adolescence are mutual ones that occur in the interrelation of mother and daughter.

Just as the mother/daughter relationship in childhood sets a foundation for subsequent psychosocial and specifically psychosexual development, the adolescent mother/daughter relationship contributes another developmental dimension. As the potential clinical implications of the adolescent mother/daughter relationship for the daughter's reproductive processes are relatively unexplored, only one study was found to be reviewed.

The reader is referred again to Uddenberg's (1974) study of mothers' and daughters' reproductive conflict symptoms and mothers' social power. Social power of the mother was assessed for the daughter's adolescence as well as for her childhood. The mother's social power in adolescence correlated very strongly with

her social power in childhood. Generally, where the mother's social power value for her daughter in adolescence was high, incidence of reproductive conflict symptoms was similar in the two generations. However, the correlation was not as strong as that associated with the mother's social power during childhood and was statistically nonsignificant.

This study supports the view that childhood is the most significant period of development of "reproductive conflict," which occurs primarily within the context of the mother/daughter relationship. Reproductive conflict may be modified perhaps only slightly by the processes of adolescence.

Daughter's current relationship with her mother. Utilizing structured interviews in the postpartum period, Kapp, Hornstein, and Graham (1963) investigated psychological factors associated with the prolonged labors of 18 primiparas. Forty-three primiparae with normal labors served as controls. Of ten factors explored, "poor relationship with mother" was second most highly correlated ( $p < .001$ ) with prolonged labor. Although the interview and coding procedures were discussed in detail, the authors did not clearly define prolonged and normal labors or good, ambivalent, and poor relationships with mother.

The research of Lederman, Lederman, Work, and McCann (1979) was introduced previously as it related to the early

mother/daughter relationship. To review, the researchers conducted a series of interviews of 32 primigravidas during their third trimesters. Among scales that strongly correlated with diminished uterine contractility and longer labors were poor progress in motherhood role identification and poor quality of relationship with mother. These scales were generated from information elicited not only from questions about the early childhood relationship with mother but also from questions about the current relationship with mother. Unfortunately, the authors did not specify what proportion of each scale is attributable to childhood relationship with mother and what proportion is attributable to the current mother/daughter relationship.

These studies indicate that the mother/daughter relationship may exert an influence on the daughter's progress in labor. By extrapolation, it can be speculated that perhaps the influence of the daughter's relationship with her mother may extend to the course of the daughter's pregnancy. However, further study is required to explore the possibility of a correlation.

The Curry study. Curry's (1985) interviews of women hospitalized with complications of pregnancy elicited data on the women's relationships with their mothers during childhood and adolescence, as well as the current relationship. Analysis documented a characteristic pattern of mother/daughter

relationship. During childhood the daughters usually got along well with their mothers and felt understood by them. During adolescence the daughters tended to feel less understood and to get along less well with their mothers. At the time of interview, most daughters reported again getting along well with their mothers and had frequent contact with them.

Summary. Existing research suggests that several aspects of the mother/daughter relationship in the daughter's childhood or adolescence or during her pregnancy may be related to some components of the daughter's reproductive function. Few studies have focused on outcome variables which included complications of pregnancy. The Curry (1985) study provided descriptive data of the mother/daughter relationships of women experiencing complicated pregnancies and indicated a need for further research to determine the significance of the findings.

#### Summary of the Review of Literature

The review focused on two areas of the literature that may be related to complications of pregnancy: (a) the gravida's mother's reproductive history and (b) the mother/daughter relationship. When mothers' histories are positive for pregnancy induced hypertension, multiple gestation, diabetes, or some other rarer heritable disorders, daughters are more likely to have complicated pregnancies. In addition, Uddenberg's work has suggested that

when mothers' histories indicate reproductive conflict, daughters' pregnancies may be more likely to be complicated. Some components of the mother/daughter relationship in childhood and adolescence have been found to relate to daughters' subsequent reproductive function. A daughter's low perceived similarity to her mother, or lack of her mother's nurturance or availability may predispose the daughter to reproductive difficulties, though not specifically to complications of pregnancy. The Curry (1985) study of women hospitalized antenatally was introduced as it related to gravidas' mothers' reproductive histories and mother/daughter relationships. Further research is required to determine the significance of Curry's findings.

#### Conceptual Framework

The human organism is a being of integrated function continuously interacting with an environment. Physiologic dynamics are inseparable from psychic and emotional dynamics. That is, physiologic processes influence and are influenced by psychic and emotional processes, all of which interact with the environment. Within this framework, reproductive difficulties (or lack of difficulties) are a physiological manifestation of a complexity of life processes and interactions occurring within and among all domains (Figure 1).



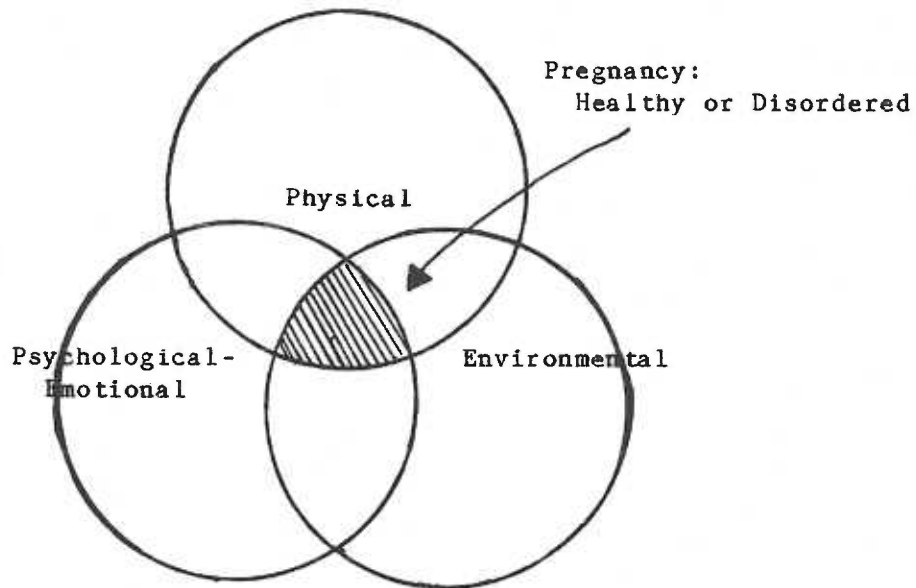


Figure 1. Domains of Interaction in Integrated Human Function

This study focused on specified variables of the daughter's physical and psychological domains. Specifically, it examined the relationships between the daughter's course of pregnancy and (a) the mother's reproductive history and (b) the mother/daughter relationship. The mother's reproductive history may be related to the daughter's complications of pregnancy not only by genes but through psychological transmission of reproductive conflict or style. Similarly, the mother/daughter relationship is usually understood as a psychological phenomenon, but some elements of personality or coping style may have physiological bases. Therefore, these variables are not seen as physiological or

psychological but as a combination, although one domain or the other may be dominant at differing times. While numerous environmental factors are recognized as interacting with these domains, measurement of the impact of environmental variables was limited to education and income of the woman and her partner. Therefore, in order to determine if specified variables of pregnant women's physical and psychological domains were related to complications of pregnancy, mothers' reproductive histories and daughters' past and present relationships with their mothers were compared in daughters who have had complicated and uncomplicated pregnancies.

The following research questions were addressed:

1. Is there a difference in the incidence of reported reproductive problems in the mothers of women with complicated pregnancies and the mothers of women with uncomplicated pregnancies?
2. Do women with complicated pregnancies and women with uncomplicated pregnancies differ in their recollection of being understood by their mothers during childhood?
3. Do women with complicated pregnancies and those with uncomplicated pregnancies differ in their recollection of how they got along with their mothers during childhood?
4. Do women with complicated pregnancies and those with

uncomplicated pregnancies differ in their report of being understood by their mothers during adolescence?

5. Do women with complicated pregnancies and those with uncomplicated pregnancies differ in their report of how they got along with their mothers during adolescence?
6. Is there a difference between women with complicated pregnancies and those with uncomplicated pregnancies in how well they are presently getting along with their mothers?
7. Is the reported frequency of contact with their mothers different between women with complicated pregnancies and those with uncomplicated pregnancies?

## CHAPTER II

### METHODS

This study compared the gravida's mother's reproductive history and the mother/daughter relationship reported by a group of women having uncomplicated pregnancies with those reported by a similar group of women hospitalized antepartally. The subjects and setting, study design and procedure, and data collection instrument will be described.

#### Subjects and Setting

##### Complicated Group

The subjects comprising the complicated group were 124 women who were interviewed between 1982 and 1984 in a multifaceted study, "Antenatal Hospitalization: Maternal Behavior and the Family". M. A. Curry (1985) of Oregon Health Sciences University was the principal investigator. All of the women were hospitalized as a result of a complication of pregnancy and/or because of a pre-existing disease exacerbated by their pregnancies. Subjects were recruited from three regional perinatal centers in Portland, Oregon: Oregon Health Sciences University Hospital, Emanuel Hospital, and Bess Kaiser Hospital. All women were able to read and speak English.

### Uncomplicated Group

The comparison or "uncomplicated" group was composed of 71 women not hospitalized during pregnancy. Comparison subjects were women who had recently delivered a full term live infant of appropriate size, culminating a pregnancy during which no hospitalization occurred. In order to obtain a comparison group which was sufficiently different from the hospitalized group, the following criteria for exclusion were applied: a cesarean section for this or any previous birth, any major complication of any of the woman's pregnancies though it may not have required hospitalization, any prenatal hospitalization in any of the woman's pregnancies though the diagnosis may not have been pregnancy-related, two or more previous spontaneous abortions, or a previous stillbirth.

Subjects were recruited from the postpartum units of two of the perinatal centers used in the Curry study, Oregon Health Sciences University Hospital and Emanuel Hospital. In order to obtain a sufficient number of subjects with uncomplicated pregnancies, subjects were also recruited from Woodland Park Hospital, a private institution in Portland, Oregon. Preliminary analysis after collection of data from the first 57 subjects indicated that the two sample groups did not differ significantly on age, education, income, ethnic origin, or parity. No attempts

were made to match subjects on these variables. All subjects were able to speak English.

#### Design and Procedure

The design of this study was a retrospective static group comparison utilizing data from interviews of women hospitalized antenatally and women completing pregnancy without hospitalization or major complication. Research conducted by M. A. Curry (1985) included interviews of women hospitalized antenatally. In the present study, the researcher interviewed subjects who had experienced uncomplicated pregnancy. Data from the two research projects were compared.

One of three nurse researchers conducted each interview in Curry's hospitalized sample. Potential sample women were approached within three days of their hospital admission to determine their willingness to participate in the study. If they agreed to participate, they were interviewed at that time. In this manner, 124 women were contacted and interviewed. Although the researchers collected data over a period of time utilizing several tools, all data pertinent to this study were collected at the initial interview.

The proposal for the present study was reviewed and approved by the Human Subjects Research Committee at each of the two major

perinatal centers. At the small private institution, the proposal was reviewed and approved by the Chief of Obstetrics and the Director of Nursing Service. The women in the comparison group were selected by the researcher from postpartum units as soon after delivery as possible. Eligibility for the study was established by chart review. All eligible women were approached during their postpartum hospital stay. Consent to participate was obtained (Appendices A, B, and C) and participants were interviewed at that time.

#### Data Collection

All women in the comparison group were interviewed by the investigator utilizing the Mother/Daughter Relationship (MDR) interview schedule (Appendix D). This 35-item structured interview schedule was adapted from the initial interview schedule used by Curry. The adapted instrument includes demographic and previous obstetrical history data, as well as questions pertaining to the participant's mother's health history and aspects of the psychological mother/daughter relationship. A few questions concerning the subject's family situation were included early in the interview to help establish rapport with the interviewer. The Curry schedule has face validity based on the literature. To assure consistency of interview approach, the researcher was

trained in interview technique by one of the research assistants from Curry's study.

#### Measurement of Predictor Variables

The predictor variables in this study were (a) the reproductive history of the gravida's mother, (b) the gravida's recollections of being understood by and getting along with her mother during childhood and adolescence, (c) the gravida's present sense of how well she is getting along with her mother, and (d) the current frequency of mother/daughter contact. Data regarding the gravida's mother's reproductive history were obtained by items 20 through 26 of the MDR interview schedule. These items asked whether the mother had ever had any of the following problems: (a) painful, irregular, or heavy menses; (b) spontaneous abortions; (c) infertility; (d) difficult or unusually painful deliveries; or (e) complications of pregnancy. Responses were yes, no, or don't know.

Information relating to the gravida's recollection of being understood by and getting along with her mother during childhood and adolescence were elicited by items 14 through 17. The response to each of these was measured on a 5-point Likert scale. High scores indicated poor levels of understanding and getting along.

Also using a 5-point Likert scale, Item 18 measured how well



the woman was currently getting along with her mother. Higher scores represented poorer levels of relationship. Frequency of contact with mother was defined as how often the daughter usually sees or has some contact with her mother. It was measured by item 19, an ordinal scale which provided seven choices ranging from daily contact to no contact. Possible scores ranged from 1 to 7, with lower scores indicating more frequent contact.

#### Measurement of Outcome Variable

The outcome variable, complicated or uncomplicated pregnancy, was determined by medical record review on the postpartum unit following delivery. Information concerning possible prenatal hospitalization and complications was usually found on the History and Physical report which is customarily written by a nurse-midwife or physician at the time of the woman's admission to the labor area.

#### Measurement of Attribute Variables

Data on age, education, gross family income, marital status, ethnic origin, religious preference, parity, and by whom the subjects were raised were collected by means of the Mother/Daughter Relationship interview schedule.

#### Analysis of Data

The Statistical Package for the Social Sciences (SPSS)

software (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975) was the computer program used for this study. Descriptive statistics were used to describe the samples. Chi-squares and t tests were used to compare the distributions of demographic and predictor variables of the sample groups. The analysis of the data will be presented in detail in the next chapter.

## CHAPTER III

### RESULTS AND DISCUSSION

This chapter contains the results of the study. The sample groups will be described first. Then the study findings will be presented and discussed as they relate to the research questions.

#### Description of the Sample Groups

Selected demographic characteristics of the sample groups are presented in Table 1. The women with complicated pregnancies and the women with uncomplicated pregnancies were similar in terms of age, education, marital status, and ethnic origin. The two groups differed significantly on two parameters, religious preference and income. With regard to religious preference, the complicated group contained a greater proportion of Protestants and Catholics, while the uncomplicated group had more "Christians" and those with no preference. These differences may represent a spurious finding or the result of coding inconsistencies between interviewers of the two groups. It is obvious that the choices of Protestant, Catholic, and Christian contain areas of conceptual overlap. However, it is interesting that a significantly larger number of women with uncomplicated pregnancies stated their religious preference as None. It is possible that some women in the complicated group turned to religion as a source of support or

Table 1

Selected Demographic Characteristics of Women  
With Uncomplicated and Complicated Pregnancies

Characteristic	Uncomplicated	Complicated	Significance of Difference
Age			
M	25.9	25.6	N.S. <sup>a</sup>
SD	5.3	5.3	
Range	15-39	14-39	
Education in Years			
M	12.7	12.5	N.S.
SD	2.6	2.4	
Range	6-18	6-21	
Marital Status			
Married	52 (73.0) <sup>b</sup>	93 (75.0) <sup>b</sup>	N.S.
Single, Never Married	15 (21.1)	17 (13.7)	
Sep., Divorced, or Widowed	4 (5.6)	14 (11.3)	
Ethnic Origin			
Caucasian	61 (85.9)	93 (89.4)	N.S.
Noncaucasian	10 (14.1)	11 (10.6)	
Religious Preference			
Catholic	9 (12.7)	28 (22.8)	$\chi^2 = 26.85^{**}$
Christian	23 (32.4)	21 (17.1)	
Protestant	10 (14.1)	45 (36.6)	
Other	4 (5.6)	13 (10.6)	
None	25 (35.2)	16 (13.0)	
Annual Family Income <sup>c</sup>			
M	4.2	3.6	$t = 2.06^*$
SD	2.3	1.8	

<sup>a</sup> Not statistically significant

<sup>b</sup> Number of subjects; values in parentheses are percentages.

<sup>c</sup> Income categories may be found in Appendix D.

\*  $p < .05$ .      \*\*  $p < .001$ .

healing because of their problems of pregnancy, whereas, the uncomplicated group did not feel the same impetus to claim a religion. Religious preference is not known to influence complications of pregnancy. Therefore, no further analysis of the impact of this variable was carried out.

The mean annual income of the complicated group was \$10,001-15,000, and the mean annual income of the uncomplicated group was \$15,001-20,000, a significant difference. The groups were similar in respect to percentages living with their partner (a potential contributor to family income), and partner's age and education (Table 2). The previous primary activity reported by the women, that is, whether employed or homemaker, also did not differ significantly between the groups (Table 3). However, it is interesting to note that 41% of the uncomplicated group was employed fulltime, while only 29% of the complicated group worked fulltime prior to hospitalization. While not statistically significant, this difference may have contributed to the difference noted between the groups' incomes.

As previously described, the women in the uncomplicated group were selected such that their histories contained no stillbirths or neonatal deaths, no previous major obstetrical complications, and no more than one spontaneous abortion. A comparison of the groups' obstetrical histories is presented in Table 4.

Table 2

Comparison of Women With Uncomplicated and Complicated  
Pregnancies on Living With Their Partner, Partner's Age  
and Education

Characteristic	Uncomplicated	Complicated	Significance of Difference
Living With Partner <sup>a</sup>			
Yes	56 (82.4) <sup>b</sup>	93 (83.0) <sup>b</sup>	N.S. <sup>c</sup>
No	12 (17.6)	19 (17.0)	
Partner's Age			
M	28.5	28.6	N.S.
SD	5.2	6.6	
Range	18-39	15-48	
Partner's Education in Years			
M	13.5	13.2	N.S.
SD	3.1	2.5	
Range	6-25	8-19	

<sup>a</sup>Subjects without partners were excluded from analysis.

<sup>b</sup>Number of subjects; values in parentheses are percentages.

<sup>c</sup>Not statistically significant.

Table 3

Previous Primary Activity of Women With  
Uncomplicated and Complicated Pregnancies

Activity	Uncomplicated	Complicated	Significance of Difference
Homemaker	26 (36.6) <sup>a</sup>	59 (47.6) <sup>a</sup>	N.S. <sup>b</sup>
Employed, Fulltime	29 (40.8)	36 (29.0)	
Employed, Parttime	11 (15.5)	20 (16.1)	
Student or Other	5 (7.0)	9 (7.3)	

<sup>a</sup>Number of subjects; values in parentheses are percentages.

<sup>b</sup>Not statistically significant.

Table 4

Obstetrical Histories of Women With  
Uncomplicated and Complicated Pregnancies

Characteristic	Uncomplicated	Complicated	Significance of Difference
Gravidity			
<u>M</u>	2.27	3.18	<u>t</u> = -3.85*
<u>SD</u>	1.18	1.78	
Live Births <sup>a</sup>			
<u>M</u>	1.93	2.19	N.S. <sup>b</sup>
<u>SD</u>	0.95	1.14	
Spontaneous Abortion			
<u>M</u>	0.13	0.57	<u>t</u> = -3.61*
<u>SD</u>	0.34	1.00	
Therapeutic Abortion			
<u>M</u>	0.21	0.32	N.S.
<u>SD</u>	0.56	0.66	

<sup>a</sup> Calculated as if all women in the complicated group had delivered a live-born infant from the pregnancy during which the interviews occurred.

<sup>b</sup> Not statistically significant

\* p < .01



Predictably, the complicated group averaged more pregnancies largely due to a significantly greater number of spontaneous abortions. The groups did not differ on the occurrence of therapeutic abortions. In order to compare the groups on number of live births, it was necessary to count the present pregnancy in the antenatally hospitalized group as a live birth. Calculated in this way, the groups were found to be similar in regard to number of live births, and primiparas and multiparas were similarly represented in each group.

Analysis also revealed that a significantly greater proportion of women with complications of pregnancy had been treated for infertility (Table 5). The prognosis for a healthy pregnancy following infertility treatment is related not only to the causative factor(s) but the treatment(s) utilized. Thus, some successfully treated women have no increased relative risk of complications of pregnancy, while others remain at high risk for pregnancy disturbance (Buttram & Reiter, 1985). However, neither the etiology of infertility nor the type of treatment, other than "medical" or "surgical", were assessed in the present study. It is also possible that some subjects misinterpreted "infertility" to mean repeated spontaneous abortion, which indeed was more common among the women with pregnancy complications.

The subjects' reports of by whom they were raised also

Table 5

History of Treatment of Infertility  
of Women With Uncomplicated and Complicated Pregnancies

Treated	Uncomplicated	Complicated	Significance of Difference
No	67 (94.4) <sup>a</sup>	99 (81.8) <sup>a</sup>	$\chi^2 = 4.99^*$
Yes	4 (5.6)	22 (18.2)	

<sup>a</sup>Number of subjects; values in parentheses are percentages.

\*  $p < .05$

differentiated the groups (Table 6). Approximately two-thirds of the women in both groups were raised by both their mother and father. But in the remaining one-third a significantly larger proportion of women in the uncomplicated group had been raised by their natural mother only. A greater proportion of women with complications reported a variety of caretakers, categorized as Other. The interview schedule did not elicit detailed data on the configurations of adults in the Other category. This researcher noted that natural mother and another person such as stepfather, grandmother, aunt, or sister were frequent combinations in the uncomplicated group. However, the composition of the Other category in the complicated group was not reported. It would be of interest to determine if the groups differed specifically in terms of the presence of their natural mother or a mother-figure as a caretaker. It is possible that the Other category of caretakers implies more instability in these women's homes as they were growing up. Perhaps girls in more unstable homes are impeded in the process of identification with their mother because of less availability or nurturance of their mothers. Similarly, the instability of early home life might also have been associated with lower income families. If so, because low income tends to be found in successive generations of families, it could be hypothesized that the higher percentage of women with

Table 6

Comparison of Women With Uncomplicated and  
Complicated Pregnancies on Who They Were Raised by

Caretakers	Uncomplicated	Complicated	Significance of Difference
Natural Mother and Father	50 (70.4) <sup>a</sup>	83 (66.9) <sup>a</sup>	$\chi^2 = 11.57^*$
Natural Mother Only	11 (15.5)	5 (4.0)	
Other(s)	10 (14.1)	36 (29.0)	

<sup>a</sup>Number of subjects; values in parentheses are percentages.

\*  $p < .01$ .

complications who were raised by Other caretakers is related to the significantly lower income of the group. However, these thoughts are highly speculative and no conclusions can be drawn based on this finding of the present study except that more research is needed.

### Research Questions

#### Question 1

The first question asked, "Is there a difference in the reported incidence of reproductive problems in the mothers of women with complicated pregnancies and the mothers of women with uncomplicated pregnancies?" The specific items measured were painful, irregular, or heavy periods; difficulty getting pregnant; spontaneous abortion; difficulty carrying a pregnancy; and difficult or unusually painful delivery. The groups were compared on these parameters by t tests (Table 7). Results indicated that the women with complications reported significantly higher incidences of spontaneous abortion in their mothers and that their mothers had more frequently had difficulty carrying a pregnancy.

Analysis of covariance was conducted to control for the effect of income. With income controlled, the incidence of their mothers' difficulty carrying a pregnancy was no longer significantly different between the groups. However, the

Table 7

Reported Reproductive Histories of the Mothers  
of Women With Uncomplicated and Complicated Pregnancies

Reproductive Difficulty	Uncomplicated	Complicated	Significance of Difference
Painful Periods	13 (24.5) <sup>a</sup>	20 (25.6) <sup>a</sup>	N.S. <sup>b</sup>
Irregular Periods	16 (29.6)	18 (22.0)	N.S.
Heavy Periods	26 (46.4)	34 (43.0)	N.S.
Difficulty Getting Pregnant	5 (7.5)	8 (7.1)	N.S.
Spontaneous Abortion	18 (25.4)	49 (43.0)	$\underline{t} = -2.53^{*c}$
Difficulty Carrying Pregnancy	13 (18.8)	37 (31.6)	$\underline{t} = -1.99^{*c}$
Difficult or Unusually Painful Delivery	19 (29.2)	34 (31.2)	N.S.

<sup>a</sup>Number reporting positive history; values in parentheses are percentages.

<sup>b</sup>Not statistically significant.

<sup>c</sup>Results of the analysis of covariance to examine differences between mothers of women with uncomplicated and complicated pregnancies revealed that, after controlling for income (the covariate), mothers of women with uncomplicated pregnancies had fewer spontaneous abortions than mothers of women with complicated pregnancies,  $F(1,177) = 5.04$ ,  $p = .026$ , but did not differ in terms of difficulty carrying the pregnancy,  $F(1,178) = 2.65$ ,  $p = .105$ .

\*  $p < .05$ .

incidence of spontaneous abortion remained significantly higher among the mothers of women with complications. In light of the significantly higher incidence of spontaneous abortion in the women themselves in the complicated group, the hypothesis of a genetic influence in the transmission of spontaneous abortion was entertained, though that relationship has not been documented in the literature. Perhaps the mothers' higher incidence of spontaneous abortion was related only to the daughters' increased incidence of spontaneous abortion, not to the daughters' complications of pregnancy per se. Further analysis by chi-square revealed that the mothers with spontaneous abortion were not concentrated among the daughters who had had spontaneous abortion. Daughters who had not had spontaneous abortion were as likely as daughters who had, to report that their mothers had experienced spontaneous abortion,  $\chi^2(1, N = 113) = 0.139, p > .10$ . This finding does not rule out the possibility of a genetic component in the transmission of reproductive difficulty, but suggests that other mechanisms are also operative.

It is unclear why mothers' spontaneous abortions would be related to daughters' complications of pregnancy while other problems in mothers' reproductive histories are apparently unrelated. However, this observation may provide insight into Uddenberg and Fagerstrom's (1976) study which found that the

daughters of mothers with many symptoms of reproductive conflict were more likely to experience obstetrical complications than the daughters of mothers who had few such symptoms. The investigators did not report analyses of data to determine the effect of individual reproductive conflict symptoms in the mother. The findings of the present study suggest that the mother's history of spontaneous abortion may be the most significant factor of those studied. Both the work of Uddenberg and his associates and the findings of this study support the view that reproductive conflict may be transmitted to the daughter through both the physical and psychological domains.

It may be argued that women in either sample group might be expected to have impaired recall of their mothers' reproductive problems. The women in the uncomplicated group were interviewed in the immediate postpartum period following an uneventful pregnancy and birth. It is possible that their relief and preoccupation with getting to know their babies clouded their recall of their mothers' reproductive difficulties. On the other hand, denial is known to be one phase of coping with crisis and women experiencing complications of pregnancy might "forget" their mothers' reproductive problems. Neither of these alternatives seems likely, however, as rather high incidences of mothers' reproductive problems were reported by both groups.



### Questions 2 through 6

The next five research questions were concerned with the quality of the mother/daughter relationship in the daughter's childhood and adolescence and at the present time. The responses on the items addressing these variables were measured on a 5-point Likert scale (see Appendix D).

The means of the complicated and uncomplicated groups on these parameters were compared by t test. Results are presented in Table 8. The groups did not differ significantly on any of the five items.

In general, the relationships of both groups of women with their mothers tended to follow the same pattern. As young girls they felt understood by their mothers and got along well with them. During adolescence, they felt less understood and tended to get along less well. In their present relationships, they reported that they were again getting along well with their mothers.

Other investigators have reported that availability, nurturance, and social power of the mother during childhood and adolescence influence the daughter's identification with her mother, which in turn may influence the daughter's adaptation to motherhood. A positive relationship with her mother during pregnancy may also facilitate the daughter's adaptation to

Table 8

Childhood, Adolescent, and Current Relationships With Mothers  
of Women With Uncomplicated and Complicated Pregnancies

Parameter of Relationship	Uncomplicated	Complicated	Significance of Difference
Understood by Mother in Childhood			
<u>M</u>	2.09 <sup>a</sup>	2.04 <sup>a</sup>	N.S. <sup>b</sup>
<u>SD</u>	0.86	1.06	
Got Along With Mother in Childhood			
<u>M</u>	1.61	1.62	N.S.
<u>SD</u>	0.88	0.89	
Understood by Mother in Adolescence			
<u>M</u>	2.78	2.81	N.S.
<u>SD</u>	1.08	1.34	
Got Along With Mother in Adolescence			
<u>M</u>	2.45	2.52	N.S.
<u>SD</u>	1.11	1.47	
Getting Along With Mother Currently			
<u>M</u>	1.34	1.45	N.S.
<u>SD</u>	0.80	0.93	

<sup>a</sup>The higher the mean, the poorer the relationship. Possible range was 1.00-5.00.

<sup>b</sup>Not statistically significant.

motherhood. The daughter's poor adaptation to motherhood has been noted to be associated with some complications of her childbearing. In contrast, the findings of the present study indicate that the quality of the mother/daughter relationship, as measured, may not be related to the development of major complications in the daughter's pregnancy. In terms of the study's conceptual framework, the view that complications of pregnancy may result in part from psychologic disruptions was not supported.

As noted in the review of the literature, it is possible that the quality of the mother/daughter relationship may be a mediating factor for the transmission of some aspects of reproductive function but not for others. Poor mother/daughter relationship may be more readily expressed through daughters' prolonged labors, for example, than through their development of complications requiring prenatal hospitalization.

It is also possible that the concepts measured, daughters' recollection of mothers' understanding and how well they got along, were not specific enough to reveal intrapsychic conflict, lack of identification with the mother, lack of mothers' nurturance, or other parameters of the mother/daughter relationship which may contribute to the daughters' reproductive problems. Furthermore, several subjects indicated that there may

be more than one dimension of "getting along". For example, several women said something like, "I get along fine with my mother because I placate her. If I didn't, we wouldn't get along at all." Perhaps questions probing the underlying relationship would have revealed greater differences between the groups.

Another possible factor is that subjects' misinterpretations of the questions may have distorted the data. The investigator noted that some subjects had difficulty distinguishing between their perceptions as children or adolescents of how much their mothers understood them and their present recognition of how much their mothers understood them then.

It is possible that women who are hospitalized antenatally are more emotionally vulnerable because of the uncertainty of the ultimate outcome of their pregnancies, concern for their own health, and their present inability to actively care for their families. Curry (1985) reported that a majority of the antenatally hospitalized women were depending on their mothers for help during their hospitalization. Perhaps these women were more likely to report their relationships with their mothers as better than they actually were. The discussion of the next research question raises the possibility that "quantity" rather than "quality" is a significant component of the mother/daughter relationship.

Question 7

The seventh question asked, "Is the frequency of contact with their mothers different between women with complicated pregnancies and those with uncomplicated pregnancies?" The scale used to measure the frequency of mother/daughter contact produced ordinal data which is presented in Table 9. The means of the two sample groups were compared by t test and the medians by the medians test. Both tests revealed a highly significant difference in frequency of mother/daughter contact between the groups. The uncomplicated group tended to have contact with their mothers more than once a week, while women in the complicated group were more likely to have weekly or monthly contact.

The smaller average income of the women with complicated pregnancies might decrease their likelihood to spend money on transportation, phone calls, or postage stamps to contact their mothers. However, when analysis of covariance was conducted to control for the influence of income the sample groups still differed significantly in terms of frequency of contact with their mothers (p < .001).

It is possible that the women who were hospitalized antenatally found their contact with their mothers suddenly limited due to the hospitalization itself. However, this is an unlikely hypothesis because the interview during which these data

Table 9

Frequency of Mother/Daughter Contact in Groups of Women  
With Uncomplicated and Complicated Pregnancies

Contact	Uncomplicated	Complicated	Significance of Difference
<b>Categories</b>			
1. Daily or Almost Daily	39 (57.4) <sup>a</sup>	40 (35.4) <sup>a</sup>	$\chi^2 = 10.25^{*b}$
2. Weekly	20 (29.4)	19 (16.8)	
3. Monthly	6 (8.8)	19 (16.8)	
4. Several Times a Year	0	20 (17.7)	
5. Every Year	2 (2.9)	12 (10.6)	
6. Every 2 or 3 Yrs.	0	2 (1.8)	
7. Never	1 (1.5)	1 (0.9)	
<b>Frequency</b>			
<u>M</u>	1.68	2.54	$t = -4.47^{**c}$
<u>SD</u>	1.10	1.48	

<sup>a</sup> Number of subjects; values in parentheses are percentages.

<sup>b</sup>  $\chi^2$  value was calculated from the medians test.

<sup>c</sup> Results of the analysis of covariance to determine the difference in frequency of mother/daughter contact between women with uncomplicated and complicated pregnancies revealed that, after controlling for income (the covariate), women with uncomplicated pregnancies still had significantly more frequent contact with their mothers than women with complicated pregnancies,  $F(1,171) = 18.65$ ,  $p < .001$ .

\*  $p < .01$ .      \*\*  $p < .001$ .

were collected was conducted within 72 hours of the women's admission to hospital--too soon for a significant proportion of women to report a change from more than weekly to less than weekly contact. Furthermore, as previously mentioned, the majority of women in the complicated group were depending on their mothers for help during hospitalization, which would tend to increase, not decrease, the reported frequency of contact.

It is intuitively evident that a larger percentage of the younger subjects would still be living in their mothers' homes and therefore have more frequent contact. Therefore, it is important to note that the sample groups did not differ significantly with regard to age, living with a partner, or marital status. It might also be anticipated that women bearing their first child would seek more frequent contact with their mothers as they develop identification with the motherhood role. However, the sample groups were similar with respect to number of live births.

It might be speculated that a woman's frequency of contact with her mother increases progressively throughout pregnancy. Perhaps the antepartally hospitalized women were in the process of increasing their contact, but it was not yet increased to the level of the women in the uncomplicated group who had recently given birth at term. Further analysis utilizing a scattergram revealed an insignificant correlation between weeks of gestation

of the antepartally hospitalized women and their frequency of contact with their mothers ( $r = .06$ ,  $p = .27$ ).

It is possible that significantly less mother/daughter contact in the complicated group is related to the larger percentage of Other caretakers reported by that group. However, the women in both groups who had no mother or mother-figure ( $n = 9$ ) were excluded from analysis and the group means still differed significantly. Another possible explanation of the difference in reported frequency of mother/daughter contact between the groups is that the data collectors may have offered different interpretations of the question to the subjects, a problem of interrater reliability.

It has been observed that pregnant women tend to reestablish or intensify their relationships with their mothers. Pregnancy is thought to be a period of conflict resolution within the mother/daughter relationship, presumably to facilitate the daughter's adaptation to motherhood. Not unexpectedly, the investigator noted that, when asked how frequently they have contact with their mothers, many women responded, "It's oftener now than before I got pregnant." The findings of the present study do not conflict with the theory that increased frequency of contact with her mother may allow a daughter greater opportunity for conflict resolution and motherhood role identification.



Perhaps the resulting reduction of intrapsychic conflict regarding motherhood is evidenced in fewer physiological complications of pregnancy. However, no such conclusion may be drawn from the present study as it did not compare frequency of mother/daughter contact before and during pregnancy, or measure mother/daughter conflict or motherhood role identification. The findings certainly indicate the need for further research in this area.

#### Summary

Women with complications of pregnancy reported significantly more spontaneous abortions in their mothers' reproductive histories and significantly less current contact with their mothers than women with uncomplicated pregnancies. The two groups did not differ in terms of the quality of their past or present relationships with their mothers. These findings suggest that within the physical and psychological domains, some elements of the mother/daughter interaction are more significant than others in relation to the course of daughters' pregnancies. In the next chapter, suggestions for further research to help clarify the meaning of these findings will be presented, as well as limitations of the study and its implications for nursing.

CHAPTER IV  
SUMMARY, LIMITATIONS, AND RECOMMENDATIONS

This chapter will present a summary of the study, limitations of the study, and recommendations for future research. Implications for nursing will conclude the chapter.

Summary

This study was conceived as an adjunct to Curry's (1985) descriptive study of 124 women hospitalized antenatally. Part of Curry's initial interview with the women elicited data about their mothers' reproductive histories and their relationships with their mothers. The purpose of the present study was to compare a group of women with uncomplicated pregnancies with the women in Curry's sample on the variables that concerned the mother/daughter relationship and their mothers' reproductive histories.

The conceptual framework, supported by the literature, suggested that a woman's complications of pregnancy are the manifestation of the interaction of a multitude of factors in her physiological, psychological, and environmental domains. A woman's mother may impact all of these domains. However, the study focused primarily on physiological and psychological variables.

The design of the study was a retrospective static group comparison. The investigator interviewed 71 women who had just completed uncomplicated pregnancies and were hospitalized on the postpartum units of three hospitals. The instrument was the Mother/Daughter Relationship interview schedule (Appendix D) which was adapted from Curry's interview schedule. This instrument gathered demographic and obstetrical history data on the subjects. It also elicited data on how much they felt understood by their mothers in childhood and adolescence and how well they got along with their mothers in childhood and adolescence. It asked how well they were currently getting along with their mothers and the frequency of their contact with their mothers. Finally, it asked if their mothers had ever had any of the following reproductive difficulties: painful, irregular, or heavy periods; difficulty getting pregnant; spontaneous abortion; difficulty carrying a pregnancy; or difficult or unusually painful delivery.

Analysis revealed that the sample groups were similar with respect to age, education, marital status, ethnic origin, previous primary activity, living with a partner, and partners' age and education. The groups differed significantly in terms of religious preference, income, and by whom they were raised. The uncomplicated group contained more women with no religious preference and women who represented themselves as "Christians"

rather than specifying a denomination. The uncomplicated group also had a slightly higher average income. A larger percentage of the women in the complicated group reported that they were raised by caretakers other than their natural mothers and fathers or their natural mothers only.

With income controlled, spontaneous abortion was the only condition of their mothers' reproductive histories which was reported significantly more often by women in the complicated group. The groups were equivalent on the other factors of their mothers' histories.

The women's reports of frequency of contact with their mothers also differentiated the groups, the women with complications reporting less contact than the women without complications. The other parameters of relationship with their mothers were not sources of difference between the groups.

The findings of the study suggest that spontaneous abortion in women's mothers' reproductive histories may be associated with the daughters' complications of pregnancy. The study findings also support the view that women with complications of pregnancy may have less contact with their mothers. However, it cannot be stated conclusively that either of the items on which the groups differed is clearly related to the women's complications of pregnancy.

### Limitations of the Study

This study had several limitations. Perhaps foremost was the disparity of the two sample groups, one of which was composed of pregnant women and the other of postpartum women. It is unknown how women in two different phases of the reproductive cycle may differ in terms of their relationships with their mothers, their recall of past mother/daughter relationships and their mothers' reproductive problems. Women are thought to experience a series of steps in a process of adaptation to motherhood within the context of the reproductive cycle. It has been theorized that women's mothers play an important part in the process, but if so, it is quite likely that they play different parts in succeeding phases of the process. For this or other reasons, it cannot be assumed that antepartum and postpartum women are equivalent in their report or recall of mother/daughter relationships or their mothers' reproductive problems. Furthermore, the women of one of the groups were experiencing the physiological and emotional stresses of complications of pregnancy, while the others did not have stresses from that source. It is possible that stress influences the recall or report of women with complications of pregnancy.

The samples were small and not representative of the general population. Although all of the interviews of the uncomplicated

group were conducted by this investigator, three other researchers interviewed the women with complications, introducing the problem of interrater reliability between the groups. Also, the interviewers' awareness of which group the women were in may have introduced bias.

The design was retrospective, and all information was subjective, derived from the subjects' report. No attempts were made to contact women's mothers or check medical charts for verification of data.

Because the interview schedule was adapted for use with the uncomplicated women, its comparability with the original instrument is uncertain. All of the items of the study instrument were taken directly from the original interview schedule and the same wording and response choices were preserved. However, it is unknown if or how response patterns might be changed because of the elimination of a large portion of the original interview schedule, especially some questions which were interspersed between questions retained for this study's schedule. In addition, the instruments had only content validity based on the literature.

#### Recommendations for Future Research

So little research has been conducted in this area that it remains an open field for investigation. The results of this study indicate important areas for further research to clarify the

study findings. Immediate research should be aimed at clearly elucidating which elements of the mother/daughter relationship impact the daughter's pregnancy and by what mechanisms. A study design which eliminates the methodological flaws of this study would be helpful. A prospective study, initiated before pregnancy and utilizing a non-pregnant control group, is necessary to measure change in frequency of contact with mother due to pregnancy. Because the study results did not indicate that the frequency increases throughout pregnancy, the question must be asked, were the observed frequencies already established prior to pregnancy? A prospective design would also elicit information from the subjects concerning the mother/daughter relationship and their mothers' reproductive problems before the onset of complications, thereby eliminating the influence of the complications themselves on those variables.

One of the assumptions underlying this study was that daughters' understanding of their mothers' reproductive problems might be a significant variable, regardless of their mothers' actual reproductive history. Nevertheless, it would be of interest to study mother and daughter pairs to compare daughters' understanding and the mothers' actual history to determine which correlates more strongly with daughters' complications of pregnancy.

The results of this study suggested that, as measured, "quantity" rather than "quality" of mother/daughter relationship may be more significantly related to the daughter's course of pregnancy. However, other elements of the quality of past and present mother/daughter relationship might be explored. Scales measuring the daughter's early identification with her mother might be utilized. A particularly intriguing area of investigation is the transmission of specific sexual and reproductive information from mother to daughter. How and when, if at all, did the mother inform the daughter of reproductive anatomy, menstruation, intercourse, and childbirth? How old was the daughter? What was the emotional content of those conversations?

The high percentage of women with complications who reported having been raised by other caretakers raises more questions. Who were the other caretakers? How much was the natural mother present? Did these women have less consistent mothering as they were growing up?

Correlations should be sought between parameters of mother/daughter relationship and specific kinds of pregnancy complications. Other variables reflecting perinatal outcome, besides pregnancy complications, could also be measured. Later research, following the identification of risk factors, should



focus on development of an effective risk screening tool and interventive measures in the care of pregnant women and their families.

#### Implications for Nursing

The nursing approach to women's health care implies concern for the woman's function, not as an isolated being, but within the context of her relationships. Nurses have provided leadership in the promotion of family-centered maternity care, encouraging active involvement of husbands or partners, and more recently of children in the family. Greater concern for the health of the mother/daughter relationship, as it relates to daughters' childbearing, is a natural expansion of nursing's focus on family relationships. Nursing's immediate concern should be with further investigation of this topic which is naturally encompassed within the scope of nursing research. It is expected that further research would generate specific implications for nursing practice.

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Appendix A

Informed Consent

Oregon Health Sciences University

## Oregon Health Sciences University

## Letter of Consent

You are invited to participate in a study entitled "Women with Complicated and Uncomplicated Pregnancies: Their Mothers' Reproductive Histories and Their Relationships With Their Mothers" conducted by Margaret Egeland, R.N., Graduate Nursing Student under the direction of Dr. Mary Ann Curry. The purpose of the study is to explore the possible correlation between a woman's relationship with her mother and her own pregnancy.

If you agree to participate, you will be interviewed by Margaret Egeland, R.N. regarding your mother's health and your relationship with your mother. The interview will take approximately 10 minutes. All of the information you give will be confidential, and your name will not appear on any of the data.

Your participation is not expected to involve any risk to you. You may refuse to participate, or withdraw from this study at any time without affecting your relationship with, or treatment at, the Oregon Health Sciences University. You will not be paid for participating in the study.

By participating in this study, you may help to increase understanding of factors that influence a woman's pregnancy. If you have any questions, please contact Margaret Egeland, R.N. at 234-3769.

Thank you.

\_\_\_\_\_  
Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Witness

Appendix B  
Informed Consent  
Emanuel Hospital

## Emanuel Hospital

## Letter of Consent

I, \_\_\_\_\_, agree to participate in a study entitled "Women with Complicated and Uncomplicated Pregnancies: Their Mothers' Reproductive Histories and Their Relationships With Their Mothers" conducted by Margaret Egeland, R.N., Graduate Nursing Student under the direction of Dr. Mary Ann Curry. The purpose of this study is to explore the possible correlation between a woman's relationship with her mother and her own pregnancy.

I understand that I will be interviewed by Margaret Egeland, R.N. concerning my mother's health and my relationship with my mother. The interview will take approximately 10 minutes. All of the information I give will be confidential, and my name will not appear on any of the data.

My participation is not expected to involve any risk to myself. I may refuse to participate, or withdraw from the study at any time without affecting my relationship with, or treatment at, Emanuel Hospital. I understand that I will not be paid for participating in the study.

By participating in this study, I may help increase understanding of the factors that influence a woman's pregnancy. If I have any questions, I understand that I may contact Margaret Egeland, R.N. at 234-3769.

\_\_\_\_\_  
Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Witness



**Appendix C**

**Informed Consent**

**Woodland Park Hospital**

## Woodland Park Hospital

## Letter of Consent

You are invited to participate in a study entitled "Women with Complicated and Uncomplicated Pregnancies: Their Mothers' Reproductive Histories and Their Relationships With Their Mothers" conducted by Margaret Egeland, R.N., Graduate Nursing Student under the direction of Dr. Mary Ann Curry. The purpose of the study is to explore the possible correlation between a woman's relationship with her mother and her own pregnancy.

If you agree to participate, you will be interviewed by Margaret Egeland, R.N. regarding your mother's health and your relationship with your mother. The interview will take approximately 10 minutes. All of the information you give will be confidential, and your name will not appear on any of the data.

Your participation is not expected to involve any risk to you. You may refuse to participate, or withdraw from this study at any time without affecting your relationship with, or treatment at, Woodland Park Hospital. You will not be paid for participating in the study.

By participating in this study, you may help to increase understanding of factors that influence a woman's pregnancy. If you have any questions, please contact Margaret Egeland, R.N. at 234-3769.

Thank you.

\_\_\_\_\_  
Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Witness

**Appendix D**

**Mother/Daughter Relationship**

**Interview Schedule**

MOTHER/DAUGHTER RELATIONSHIPINTERVIEW SCHEDULE  
(adapted from Curry, 1985)

Subject Number \_\_\_\_\_

## Hospital

1. \_\_\_ OHSU
2. \_\_\_ Emanuel
3. \_\_\_ WPH

1. How old are you? \_\_\_\_\_
2. How many years of formal education have you had? \_\_\_\_\_
3. What is your marital status?
  1. \_\_\_ Married
  2. \_\_\_ Single, never married
  3. \_\_\_ Divorced
  4. \_\_\_ Separated
  5. \_\_\_ Widowed
4. Are you living with your partner?
  0. \_\_\_ No
  1. \_\_\_ Yes
  7. \_\_\_ No partner

## IF APPLICABLE:

5. How old is your partner? \_\_\_\_\_
  77. \_\_\_ N/A

## IF APPLICABLE:

6. How many years of formal education has your partner had? \_\_\_\_\_
  77. \_\_\_ N/A
  88. \_\_\_ Don't know

7. What was your primary activity before having this baby?

1.  Homemaker
2.  Employed, fulltime
3.  Employed, parttime
4.  Student
5.  Other, explain \_\_\_\_\_

8. If employed, what did you do?

1.  Professional
2.  Manager or owner of business
3.  Farmer (owner, manager of at least 100 square acres)
4.  Clerical person, salesperson, technician
5.  Skilled craftsperson, supervisor
6.  Machine operator, semi-skilled
7.  Service worker
8.  Unskilled or farm laborer
9.  Homemaker
10.  Unemployed
77.  Not applicable

9. Approximately what is your yearly family income?

1.  0 - 6,000
2.  6,001 - 10,000
3.  10,001 - 15,000
4.  15,001 - 20,000
5.  20,001 - 30,000
6.  30,001 - 40,000
7.  40,001 and over
8.  Don't know

## IF APPLICABLE:

10. What is your partner's occupation? (If student, indicate the category in which partner will be working when finished with school.)

1.  Professional
2.  Manager or owner of business
3.  Farmer
4.  Clerical person, salesperson, technician
5.  Skilled craftsperson, supervisor
6.  Machine operator, semi-skilled
7.  Service worker
8.  Unskilled or farm laborer
9.  Retired or disabled
10.  Unemployed
77.  Not applicable
88.  Don't know

11. What is your religious preference?

1.  Protestant
2.  Catholic
3.  Jewish
4.  Other, specify \_\_\_\_\_
5.  None
6.  Christian

12. What is your ethnic origin?

1.  Caucasian
2.  Hispanic
3.  Black
4.  Native American
5.  Asian
6.  Other, specify \_\_\_\_\_

13. Who were you raised by?

1.  Natural mother and father
2.  Natural mother only
3.  Natural father only
4.  Adoptive mother and father
5.  Adoptive mother only
6.  Natural mother and other(s)
7.  Other(s), specify \_\_\_\_\_

14. In general, did your \_\_\_\_\_ (mother-figure indicated in question 13) understand you in your early childhood?

1. \_\_\_ All of the time
2. \_\_\_ Most of the time
3. \_\_\_ Some of the time
4. \_\_\_ Seldom
5. \_\_\_ Never
6. \_\_\_ No mother-figure
8. \_\_\_ Don't know

15. How about when you were a teenager?

1. \_\_\_ All of the time
2. \_\_\_ Most of the time
3. \_\_\_ Some of the time
4. \_\_\_ Seldom
5. \_\_\_ Never
6. \_\_\_ No mother-figure
8. \_\_\_ Don't know

16. We all have our ups and downs with our parents, but generally speaking, did you get along with your \_\_\_\_\_ (mother-figure indicated in question 13) in your early childhood?

1. \_\_\_ Very well
2. \_\_\_ Usually well
3. \_\_\_ Fair
4. \_\_\_ Usually poorly
5. \_\_\_ Very poorly
6. \_\_\_ No mother-figure
8. \_\_\_ Don't know

17. How about in your teenage years - did you get along with your \_\_\_\_\_ (mother-figure indicated in question 13)?

1. \_\_\_ Very well
2. \_\_\_ Usually well
3. \_\_\_ Fair
4. \_\_\_ Usually poorly
5. \_\_\_ Very poorly
6. \_\_\_ No mother-figure
8. \_\_\_ Don't know

18. Lets` move up to the present. How do you get along with your \_\_\_\_\_ (mother-figure indicated in question 13)?

1. \_\_\_ Very well
2. \_\_\_ Usually well
3. \_\_\_ Fair
4. \_\_\_ Usually poorly
5. \_\_\_ Very poorly
6. \_\_\_ No mother-figure
8. \_\_\_ Don` t know

19. How often do you usually see or have some contact with your \_\_\_\_\_ (mother-figure indicated in question 13)?

1. \_\_\_ Daily or almost daily
2. \_\_\_ Weekly
3. \_\_\_ Monthly
4. \_\_\_ Several times a year
5. \_\_\_ Every year
6. \_\_\_ Every 2 or 3 years
7. \_\_\_ Never
8. \_\_\_ No mother-figure

20. Now I would like to ask you a few questions about your mother`s health. Did your mother have painful periods?

0. \_\_\_ No
1. \_\_\_ Yes
7. \_\_\_ Not applicable
8. \_\_\_ Don` t know

21. Did your mother have irregular periods?

0. \_\_\_ No
1. \_\_\_ Yes
7. \_\_\_ Not applicable
8. \_\_\_ Don` t know

22. Did your mother have heavy periods?

0. \_\_\_ No
1. \_\_\_ Yes
7. \_\_\_ Not applicable
8. \_\_\_ Don` t know



23. Did your mother have any miscarriages?

- 0.  No
- 1.  Yes
- 7.  Not applicable
- 8.  Don't know

24. Did your mother have any difficulty getting pregnant?

- 0.  No
- 1.  Yes
- 7.  Not applicable
- 8.  Don't know

25. Did your mother have difficult or unusually painful deliveries?

- 0.  No
- 1.  Yes
- 7.  Not applicable
- 8.  Don't know

26. Did your mother have any difficulty carrying her pregnancies?

- 0.  No
  - 1.  Yes
  - 7.  Not applicable
  - 8.  Don't know
- If yes, please describe \_\_\_\_\_

ASK #27--35 ONLY AS NEEDED FOR CLARIFICATION:

27. Now I would like to ask you about any previous pregnancies you may have had. How many times have you been pregnant (counting this baby)? \_\_\_\_\_

28. How many live births have you had?

- 0.  None
- 1.  One
- 2.  Two
- 3.  Three
- 4.  Four
- 5.  Five
- 6.  Six or more

29. How many children have been seriously ill at birth or immediately afterwards?

- 0.  None
- 1.  One
- 2.  Two
- 3.  Three
- 4.  Four
- 5.  Five
- 6.  Six or more

30. How many children have died after birth?

- 0.  None
- 1.  One
- 2.  Two
- 3.  Three
- 4.  Four
- 5.  Five
- 6.  Six or more

31. How many spontaneous miscarriages have you had in the first three months of pregnancy?

- 0.  None
- 1.  One
- 2.  Two
- 3.  Three
- 4.  Four
- 5.  Five
- 6.  Six or more

32. How many therapeutic abortions have you had?

- 0.  None
- 1.  One
- 2.  Two
- 3.  Three
- 4.  Four
- 5.  Five
- 6.  Six or more

33. How many babies have died before they were born?

- 0.  None
- 1.  One
- 2.  Two
- 3.  Three
- 4.  Four
- 5.  Five
- 6.  Six or more

34. How many babies were born prematurely?

- 0.  None
- 1.  One
- 2.  Two
- 3.  Three
- 4.  Four
- 5.  Five
- 6.  Six or more

35. Have you ever received treatment for infertility?


- 0.  No
- 1.  Medical
- 2.  Surgical
- 3.  Both medical and surgical
- 4.  Other, specify \_\_\_\_\_

AN ABSTRACT OF THE THESIS OF  
MARGARET A. EGELAND

For the degree of MASTER OF NURSING

Date of Receiving this Degree: June 14, 1985

Title: WOMEN WITH COMPLICATED AND UNCOMPLICATED PREGNANCIES:  
THEIR MOTHERS' REPRODUCTIVE HISTORIES AND THEIR  
RELATIONSHIPS WITH THEIR MOTHERS.

APPROVED: 

Mary Ann Curry, R.N., D.N.Sc., Thesis Advisor

The purpose of this study was to compare a group of women with complicated pregnancies with a group of women with uncomplicated pregnancies on variables that concerned their mothers' reproductive histories and their past and present relationships with their mothers. The design of the study was a retrospective static group comparison.

This study utilized an existing data set from a study of women hospitalized antenatally, conducted by M. A. Curry of the Oregon Health Sciences University. These women ( $N = 124$ ) were hospitalized with complications of pregnancy and/or medical conditions exacerbated by their pregnancies and were interviewed

during their hospital stays. For purposes of comparison with the group of women with complications, 71 women who had just completed uncomplicated pregnancies were interviewed during their postpartum hospital stays. The interview schedule was adapted from the Curry instrument, preserving identical wording and utilizing questions pertaining to demographic variables, obstetrical history, the subject's mother's reproductive history, and the subject's past and present relationship with her mother.

Chi-squares and t tests were used to compare the distributions of demographic and predictor variables of the sample groups. Because preliminary analysis revealed that the women in the complicated group had a significantly lower income, analysis of covariance was conducted to control for income. With income controlled, spontaneous abortion was the only item of the women's mothers' reproductive histories that differentiated the groups, the women of the complicated group reporting a significantly higher incidence in their mothers ( $p < .05$ ). The women of the complicated group also reported less frequent contact with their mothers than women in the uncomplicated group ( $p < .001$ ), but did not differ on other parameters of relationship with their mothers.

Limitations of the study were the disparity of the sample groups, that is, pregnant and postpartum women, the small sample sizes, the retrospective and subjective study design, the

questionable equivalence of the interview schedules, and possible poor interrater reliability. Recommendations were made for further nursing research to clarify the significance of the findings for nursing practice.