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FACTORS AFFECTING WOMEN'S DECISIONS TO
OBTAIN PRENATAL CARE IN MICHIGAN

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**FACTORS AFFECTING WOMEN'S DECISIONS TO
OBTAIN PRENATAL CARE IN MICHIGAN**

By

Catherine Jean McDonald

AN ABSTRACT OF A THESIS

**Submitted to
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ABSTRACT

FACTORS AFFECTING WOMEN'S DECISIONS TO OBTAIN PRENATAL CARE IN MICHIGAN

By

Catherine Jean McDonald

In 1989, almost 30 percent of Michigan women having live births received inadequate or intermediate prenatal care. The Michigan Nurses Association (MNA) distributed a survey attempting to address how women decided to obtain prenatal care. MNA directed data collection. This study reported a secondary analysis of that survey. Frequencies and chi-square statistics were used in this descriptive study.

The sample was of 482 pregnant women receiving prenatal care in Michigan. The major barriers to obtaining prenatal care were the inability to pay, and not being able to find a doctor who would take their insurance. The findings suggested that the number of women receiving adequate prenatal care may be improved by: (a) educating the public regarding resources for prenatal care, and, (b) improving access to prenatal care by expanding utilization of nurses in advanced practice.

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TABLE OF CONTENTS

INTRODUCTION	1
REVIEW OF THE LITERATURE	
The Conceptual Framework	4
Pender's (1987) Health Promotion Model	4
Adaptation of the Health Promotion Model	6
Conceptual Definition of the Variables	
Modifying Factors	10
Cognitive-Perceptual Factors	11
Review of the Literature Relevant to Identified Variables	
Modifying Factors	12
Cognitive-Perceptual Factors	16
Cues to Action	19
Limitations of the Literature Review	19
METHODS	
Design	20
Instrumentation	20
Sample	20
Data Collection Procedures	21
Dependent and Independent Variables	21
Operational Definitions	
Cognitive-Perceptual Factors	21
Modifying Factors	23
Cues to Action	24

Assumptions and Limitations	25
Strengths of the Michigan Nurses Association Survey	26
Data Analysis	26
Research Question One	26
Research Question Two	27
Research Question Three	27
Research Question Four	27
Research Question Five	27
Research Question Six	27
Procedures for Protection of Human Subjects	28
RESULTS	
Description of Sample	28
Other Background Material	30
Answers to Research Questions	30
DISCUSSION	
Interpretation of the Results	42
Major Barriers Identified in the Study	42
Factors Differentiating Perceived Barriers	46
Perceived Control of Health and Modifying Factors	47
Discussion of Results with the Conceptual Framework	48
Discussion of Data Analysis	50
Methodological Assumptions and Limitations	50
Difficulties with Interpretation of the Results	51
Implications for Advanced Nursing Practice and Primary Care	52
Recommendations for Further Research	54

Factors Affecting Women's Decisions to Obtain Prenatal Care in Michigan

INTRODUCTION

Empirical evidence exists to support the claim that adequate prenatal care prevents low birthweight and reduces maternal and infant mortality (Foster, Guzick, & Pulliam, 1992; Harrison, 1992; Institute of Medicine, 1985; Kessner, Singer, Kalk, & Schlesinger, 1973; Rahbar, Momeni, Fomufod, & Westney, 1985). Unfortunately, a considerable number of women in the United States have not utilized prenatal services to an extent necessary to meet criteria for adequate care (Institute of Medicine, 1985). The reasons women have not received prenatal care may be diverse and complex. It is often regarded as a problem of impedance; if one were to remove various barriers to care, women may be more likely to receive adequate prenatal care (Cooney, 1985; Curry, 1989; Perez-Woods, 1990).

This study utilized Pender's (1987) Health Promotion Model (HPM), enabling the author to consider what factors may motivate women to seek prenatal care as well as what barriers may interfere with their attempts to obtain prenatal care. The HPM uses two categories of factors that motivate women in the decision-making phase: the Cognitive-Perceptual Factors and the Modifying Factors.

There are seven Cognitive-Perceptual Factors: (a) importance of health, (b) perceived control of health, (c) perceived self-efficacy, (d) definition of health, (e) perceived health status, (f) perceived benefits of health-promoting behavior, and (g) perceived barriers to health-promoting behavior (Pender, 1987). The Cognitive-Perceptual Factors are the *primary* motivating mechanisms in the decision making phase.

Modifying Factors are factors that originate from the person's environment and, therefore, are indirect motivating mechanisms. The five Modifying Factors are: (a) demographic factors, (b) biological characteristics, (c) interpersonal influences, (d) situational factors, and (e) behavioral factors (Pender, 1987). This study attempts to

describe which Cognitive-Perceptual Factors and Modifying Factors may have affected women's decisions to obtain prenatal care in Michigan in 1991.

In 1989, the proportion of Michigan women having live births and who received inadequate or intermediate prenatal care was almost *30 percent* (Michigan Department of Public Health, 1992) (Appendix A, "MDPH Prenatal Care Statistics"). The complexity of the problem is further realized when one understands the criteria for "adequate prenatal care" entails early initiation of care and the *continuation* of care. A widely accepted criteria for describing adequate, intermediate, and inadequate prenatal care was outlined by Kessner et al. (1973). The Michigan Department of Public Health (MDPH) has adapted Kessner et al.'s (1973) criteria for data gathered regarding prenatal care in Michigan (refer to Appendix B, "MDPH Adaptation of the Kessner Index").

The ability of women to overcome barriers to receive continuous care may be a significant problem in Michigan. As illustrated by this citation from the MDPH:

Considered as a proportion of the live births mothers who did not receive adequate care, *24.6 percent* [italics added] of the live births to mothers not receiving adequate care were to mothers who initiated care within the recommended first trimester, but did not continue to receive the appropriate minimum number of prenatal care visits. (MDPH, 1992, pp. 124-125)

In 1990, a campaign designed to increase both awareness of the importance of prenatal care and the utilization of prenatal care services was conducted by the MDPH in cooperation with the private sector. The "Baby Your Baby" Campaign (Appendix C) was an attempt to remove some of the barriers that Michigan women perceived, such as availability of services (Headley, 1991).

Several months after the initiation of the Baby Your Baby Campaign, the Michigan Nurses Association (MNA) distributed a prenatal care survey to various practices offering prenatal care across Michigan, asking pregnant women what barriers they encountered in obtaining and continuing prenatal care. This study reports a secondary analysis of that survey.

The concern displayed by MNA regarding prenatal care has a substantive historical basis. Nurses have a long history of providing maternal-child health services within the public health domain (Fagin, 1986). Recent trends of nurses in advanced practice, most notably Certified Nurse Midwives, have developed an emphasis on a primary care health model, known as the “women’s healthing model” (Thompson, 1986). Primary issues of the women’s healthing model are contraception, childbearing care, gynecological screening, and sexual education and/or counseling (Thompson, 1986; Willis & Fullerton, 1991). Currently, most states, through their nurse practice acts, sanction primary care of the obstetrical patient by nurse practitioners and nurse-midwives (Star, Shannon, Sammons, Lommel, & Gutierrez, 1990).

As nurses in advanced practice continually evolve their roles as an advocate, educator, counselor, and clinician (among others), it is paramount to determine what factors both motivate and discourage women in their quest for primary health care, including prenatal care services. The Prenatal Care Survey distributed by the MNA (Appendix D) represents a small part of an ongoing effort by the MNA to increase nursing’s knowledge of what factors are significant to women in Michigan who are trying to obtain prenatal primary care.

The purpose of this study is to analyze and to provide descriptive data from the MNA’s Prenatal Care Survey. The overall research question is: What are the relationships between Cognitive-Perceptual Factors and Modifying Factors identified by Michigan women during their decision phase to obtain prenatal care? Specific research questions adapted from the survey are:

1. Is there a relationship between Perceived Barriers and Demographic, Situational, and Biological Factors?
2. Is there a relationship between Perceived Control of Health and Demographic, Situational, and Biological Factors?
3. Is there a relationship between Perceived Benefits of Health-Promoting Behaviors and Demographic, Situational, and Biological Factors?

4. How many respondents were aware of the Baby Your Baby Campaign?
5. How many respondents reported having called the Baby Your Baby Hotline number?
6. How long were the respondents pregnant before they first tried to find prenatal care?
7. How long did the respondents have to wait before their first appointment?

REVIEW OF THE LITERATURE

The Conceptual Framework

Pender's (1987) Health Promotion Model

Pender's (1987) Health Promotion Model (HPM) was used as the conceptual framework for this study. According to Pender's model, *health promotion* activities are directed toward increasing the level of a harmonious, positive state of enhanced well-being and self-actualization. Health-promotive behaviors stem from the individual's desire for personal growth, fulfilling one's potential, and improving one's quality of life. As such, they are integral to one's everyday life style. Health-promoting behaviors are those that *act* on the environment to move toward a higher level of health, in contrast to those behaviors that are a *reaction* to a threat from the environment (Pender, 1987).

The HPM (Appendix E) revolves around two phases: (a) a decision phase, and (b) an action phase. There are seven Cognitive-Perceptual Factors that exert *primary* motivational influences for the acquiring and maintaining of health-promoting behaviors in the decision phase. Cognitive-Perceptual Factors are individual perceptions, or interpretations that have evolved through a person's lifetime of learning. The seven Cognitive-Perceptual Factors within the HPM are: (a) importance of health, (b) perceived control of health, (c) perceived self-efficacy, (d) definition of health, (e) perceived health status, (f) perceived benefits of health-promoting behavior, and (g) perceived barriers to health-promoting behavior (Pender, 1987).

There are also Modifying Factors, which *indirectly* influence the likelihood of engaging in health-promoting behaviors, that is, the person's cognitive perception of the value of any health-promoting behavior may *overcome* any modifying factor that exists (Pender,

1987; Polit & Hungler, 1991). Modifying Factors originate from the environment, other individuals, or past experiences. The five Modifying Factors identified by the HPM are: (a) demographic factors, (b) biological characteristics, (c) interpersonal influences, (d) situational factors, (e) behavioral factors (Pender, 1987).

During the action phase, Cues to Action combine with the decisions formed from the Cognitive-Perceptual Factors to result in the likelihood of engaging in health-promoting behaviors. Cues to Action may be internal, or they may originate from the environment. An example of an internal cue would be “feeling good” as a result of reassurance from the health care provider that the baby is growing adequately in utero. External cues include conversations with other people, media reports, and readings from the literature (Pender, 1987).

Rationale for selection of Pender’s (1987) Health Promotion Model. The HPM enables the researcher to consider what factors motivate a woman to seek prenatal care, in addition to exploring the barriers which prevent a woman from obtaining prenatal care. This approach is a positive, pro-active view as one attempts to study dynamic, fluctuating factors that may influence a woman and her family as they decide if and how she will obtain prenatal care. The very notion that pregnancy is a state of wellness is in contrast to traditional methods of treating women as if they were ill during their pregnancies. Each woman’s individual experience with pregnancy may afford her a chance to enhance her well-being and self-actualization (Patterson, Freese, & Goldenberg, 1990).

Theoretically, pregnancy can be viewed as a developmental milestone that presents the family an opportunity for growth (Carter & McGoldrick, 1989). The HPM conceptually addresses the decision-making processes humans negotiate in their attempts to grow and develop toward higher levels of human self-actualization. For these reasons, a conceptual framework evolved from the HPM in an attempt to analyze the variables identified from MNA’s Prenatal Care Survey in a systematic manner.

Adaptation of the Health Promotion Model

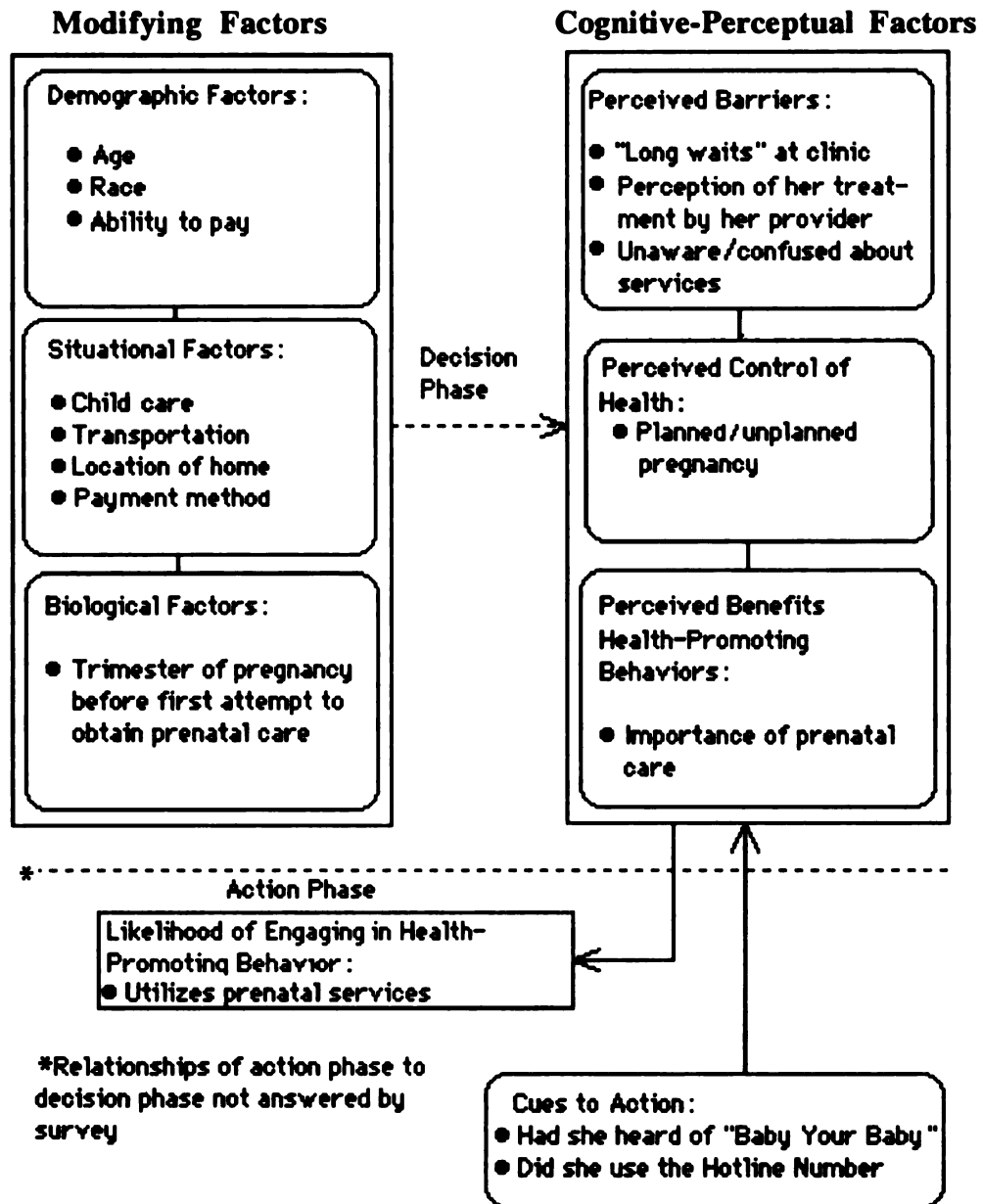
Variables from the MNA's Prenatal Survey were identified within the context of the Health Promotion Model. A "Conceptual Model for Variables" theoretically consistent with the HPM is found in Figure 1. The conceptual model categorized the variables of the survey to be consistent with the conceptual definitions outlined by Pender (1987) regarding the Cognitive-Perceptual Factors, the Modifying Factors, and the Cues to Action. However, one must exercise caution when retrofitting a conceptual model to existing data during a secondary analysis (Polit & Hungler, 1991).

A conceptual difficulty was encountered in this study in the determination of how the variables would be presented within the adapted conceptual framework. Variables such as "child care," "transportation," and "ability to pay" would be defined as whatever appropriate Modifying Factor would best describe the variable according to the Pender's (1987) definitions. For example, "ability to pay" could be interpreted as being directly related to income level, which Pender described as a Demographic Factor (refer to Figure 1). A Demographic Factor is one of the Modifying Factors.

Likewise, "child care" and "transportation" are viewed by Pender as being fluctuating circumstances that may indirectly influence a person's decision-making process when determining the need to seek health promotion activities. As such, these two variables would be considered Situational Factors if interpreted based on Pender's (1987) definitions. A Situational Factor is also one of the five Modifying Factors.

However, the Prenatal Care Survey (Appendix D) asked the respondents their perception of "which things were hard about getting prenatal care?" The question asked the women their *perception* of the variables listed under question five of the survey, in terms of making it hard for them to obtain prenatal care. Consequently, variables such as "ability to pay," "child care," and "transportation" were conceptually defined as Perceived Barriers in the adapted conceptual framework for this study.

Figure 1

Conceptual Model for Variables*Adapted from the Health Promotion Model*

Note. Adapted from *Health Promotion in Nursing Practice* (p. 58) by N. J. Pender, 1987, Norwalk, CT: Appleton & Lange. Copyright 1987 by Appleton & Lange.

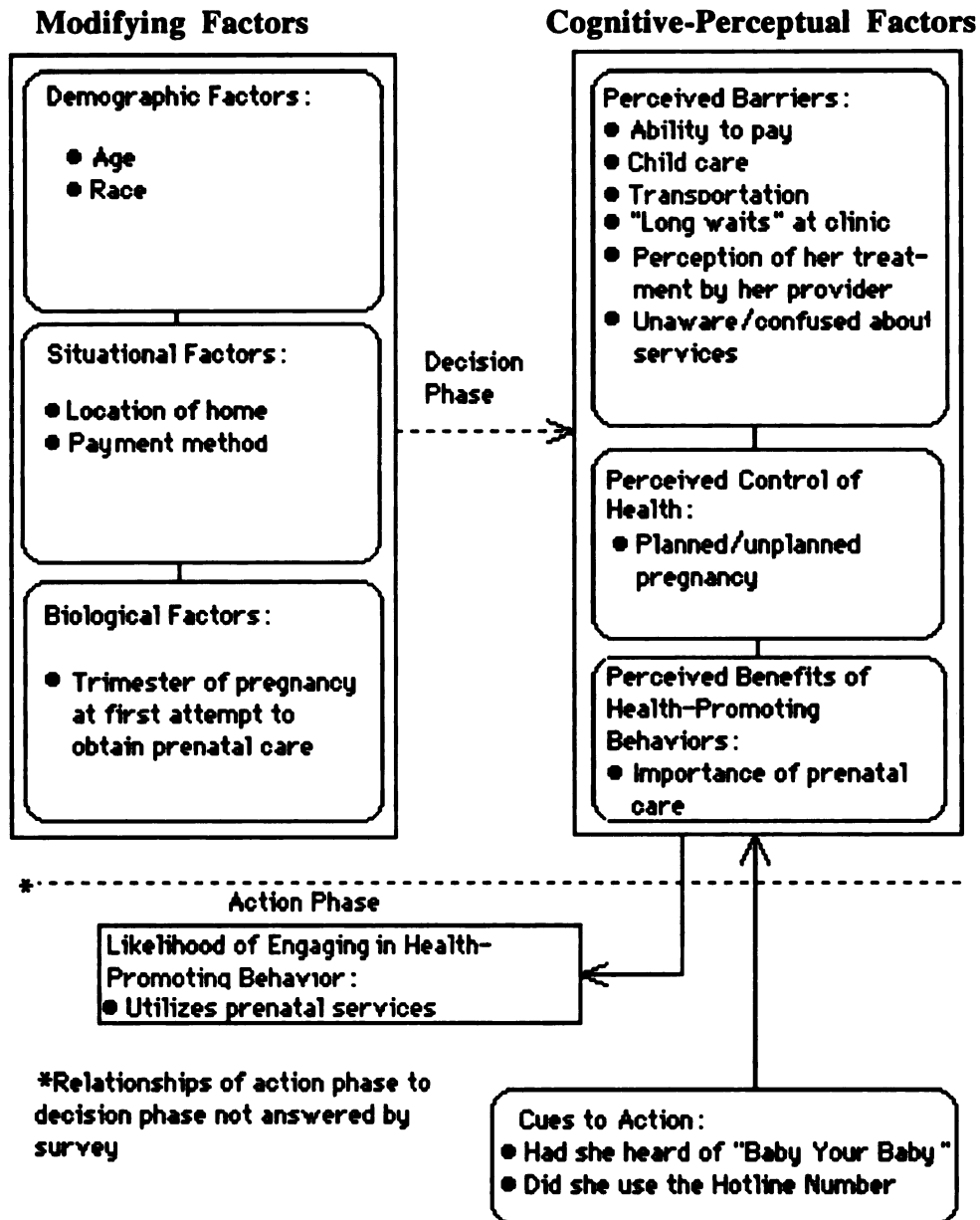
The final adaptation of the variables reflecting the manner in which the survey presented the questions, while using the Health Promotion Model as a theoretical model, is presented in the “Conceptual Framework” found in Figure 2.

Modifying Factors were identified from the Prenatal Care Survey in the section marked “optional,” and from question four of the survey. These questions were worded in a factual manner and not related to the woman’s perceptions of whether or not her age, race, home, payment method, or the number of months she was pregnant at her first attempt to obtain prenatal care made it hard for her to obtain prenatal care. Consequently, the conceptual definition for these five variables were consistent with Pender’s (1987) description of Modifying Factors. Further accuracy was sought in subdividing the Modifying Factors into demographic, situational, and biological factors as described by Pender (1987).

The adapted Conceptual Framework for this study (refer to Figure 2) shows an arrow leading from the Modifying Factors to the Cognitive-Perceptual Factors to reflect the reciprocal relationship an individual may experience as he or she constantly revolves from the decision phase to the action phase. Modifying variables are listed within a continuum to indicate their fluctuating, inadvertent effect on the cognitive-perceptual realm.

However, the Modifying Factors are not *directly* responsible for the actual decision; therefore, a broken line with the arrow was used instead of a solid line. The significance of the Modifying Factors is determined by each individual’s cognitive appraisal of the situation. The Cognitive-Perceptual Factors are enclosed within a box to illustrate the inter-relatedness of an individual’s perceptions. In other words, the Cognitive-Perceptual Factors do not exist in isolation, but work in a complex summation resulting in decisions about the health-seeking behaviors the individual may seek (Pender, 1987).

Figure 2

Conceptual Framework*Adapted from Pender's Health Promotion Model*

Note. Adapted from *Health Promotion in Nursing Practice* (p. 58) by N.J. Pender, 1987, Norwalk, CT: Appleton & Lange. Copyright 1987 by Appleton & Lange.

Conceptual Definitions of the Variables

Modifying Factors

Demographic Factors. Demographic variables are items such as age, race, education, and income (Pender, 1987). Income levels and educational levels were not addressed in the Prenatal Care Survey. Many studies exploring what factors influence a woman's decision to obtain prenatal care have described various sociodemographic factors as key determinants, such as age, race, poverty, marital status, parity, and accessibility of care (Cooney, 1985; Curry, 1989; Leatherman, Blackburn & Davidhizar, 1990; Lia-Hoagberg et al., 1990; Warrick, Wood, Meister, & Zapien, 1992; Willis & Fullerton, 1992). Age was defined as the respondent's number of chronological years since her birth. Race was defined as the respondent's racial or ethnic heritage using commonly accepted descriptors.

Situational Factors. Situational factors are environmental determinants that include "health-promoting options available and ease of access to health-promoting alternatives...individuals may wish to behave in ways that promote health, but environmental constraints prevent access to healthful options" (Pender, 1987, p. 68). Location of home and payment method are considered situational variables within the adapted conceptual framework. The type of payment method a respondent selected did not intend to measure her income level, but referred to her resources for paying her health care provider. Because payment methods are subject to a wide variety of regulations, provider acceptance, and accessibility, payment method was conceptually defined as a Situational Factor.

Biological Factors. According to Pender (1987), biological characteristics are those physiological entities the person possesses when encountered with a decision to participate in a health-promotion activity. A specific example discussed by Pender was that one study "found weight to be a significant predictor of intention to engage in exercise" (Pender, 1987, p. 67). The biological variable for the Conceptual Framework is simply the trimester of pregnancy a woman was pregnant before she first made an attempt to find or access

prenatal care. No other biological characteristics were identified from the MNA Prenatal Care Survey.

Cognitive-Perceptual Factors

Perceived Barriers. Recently, there has been a shift to focus on behavioral aspects of prenatal care use (Institute of Medicine, 1988; Kinsman & Slap, 1992; Young, McMahon, Bowman, & Thompson, 1989). The cognitive-perceptual aspect of defining barriers must be emphasized. For purposes of this study, barriers are situations that are *perceived* by the individual as an obstacle to obtaining care (Kinsman & Slap, 1992; Pender, 1987; Poland, Ager, & Olson, 1987). A client's perception of her ability to pay, her ability to obtain child care for any other children, her access to transportation to her appointments, if there were long waits at the clinics, not liking how the health care provider treated her, and being unaware of available services are barriers that are individually defined (Burks, 1991; Curry, 1989; Patterson et al., 1990; Poland et al., 1987; Wells, McDiarmid, & Bayatpour, 1990). Within the conceptual framework, these factors are identified under "Perceived Barriers."

Perceived Control of Health. The Cognitive-Perceptual Factor of "perceived control" an individual has over his or her health may influence health behavior. Referred to by many as the "health locus of control," an individual may be internally controlled, externally controlled by powerful others, or externally controlled by chance (Pender, 1987, Wallston, Wallston, & Devellis, 1978). A woman who plans her pregnancy may have more opportunities to find sources for prenatal care. Conversely, a woman who did not plan her pregnancy may be prone to feeling controlled by external forces, and, may not have any opportunities to find sources for prenatal care until well into the pregnancy.

A distinction should be made between an unplanned pregnancy, and an *unwanted* pregnancy. Women may use various contraceptive methods and still become pregnant, or, they simply may not desire a pregnancy. Either scenario indicates the pregnancy most

likely was not wanted at that time in the woman's life. The MNA Prenatal Care Survey did not address wantedness of the pregnancy, only if it was planned.

A reasonable assumption, therefore, is that a woman may feel in control of her situation if she planned for the pregnancy. The alternative assumption is that a woman may feel controlled by external sources if she did not plan for her pregnancy. In recognizing that an unplanned pregnancy may very well be a wanted pregnancy, the variable "planned/unplanned pregnancy" was conceptually defined as a woman's perceived control of her health.

Perceived Benefits of Health-Promoting Behaviors. The cognitive-perceptual category of "perceived benefits of health-promoting behaviors" refers to an individual's values regarding health promotion. These values are learned from past experiences, information sources, and significant others in a person's life. Some women may perceive a benefit to obtaining prenatal care above and beyond illness prevention (Patterson et al., 1990).

Within the adapted conceptual framework, the perceived benefits of obtaining prenatal care is called the "importance of prenatal care." The term "importance" implies that the woman will re-prioritize her life to emphasize prenatal care as something she will truly need and will receive some health benefits.

Review of Literature Relevant to Identified Variables

Modifying Factors

Demographic Factors. "Age" and "race" are considered identifiable risk factors for poor pregnancy outcomes (Health Resources and Services Administration, 1991; Kay et al., 1991; Kinsman & Slap, 1992; MDPH, 1992; Scupholme, Robertson, & Kamons, 1991; St. Clair, Smeriglio, Alexander, Connell, & Niebyl, 1990). Some studies report age as a risk factor for not obtaining prenatal care, particularly at extremes of the reproductive spectrum (Cooney, 1985; Health Resources and Services Administration, 1991; MDPH, 1992; Patterson et al., 1990; Poland et al., 1987; Scupholme et al., 1991; Wells, McDiarmid, & Bayatpour, 1990; Young et al., 1989). Much has been written regarding

the difficulties adolescents experience in obtaining prenatal care, including lack of money, lack of insurance, unawareness of pregnancy, lack of social support, and unmarried status as unique problems that are particularly prevalent within this age group (Scupholme et al., 1991; Wells, et al., 1990; Young, et al., 1991).

Similarly, there has been evidence regarding the increased risk for receiving inadequate prenatal care among women over age 34 (Health Resources and Services Administration, 1991; Institute of Medicine, 1985; MDPH, 1992; Patterson et al., 1990). This is disputed by other studies that did not find a correlation between older age and inadequate prenatal care (Cooney, 1985; Leatherman et al., 1990; Lia-Hoagberg et al., 1990).

Despite the inability to separate the many possible confounding influences to race, age, and poverty, national statistics are generated to follow trends within racial and ethnic groups as a method of best targeting needs for health care resources (Health Resources and Services Administration, 1991). The 1991 publications from the Health Resources and Services Administration (HRSA) report that from 1970 to 1987, Blacks were more than twice as likely as Whites to have late or no prenatal care (11.1 percent versus 5.0 percent). American Indians experienced similar results: 11.7 percent of American Indian women received late or no prenatal care. Pacific Islander mothers who delayed or did not obtain prenatal care had an incidence of 5.8 percent of late or no prenatal care, which was similar to Whites (HRSA, 1991). Hispanic mothers fared the worst of any racial group in terms of receiving late or no prenatal care. A total of 12.7 percent of Hispanic women fell into this category, with Puerto Rican women having an incidence of 17.1 percent (HRSA, 1991). Michigan reported similar racial disparities in 1989 (MDPH, 1992). The proportion of White mothers who received inadequate care was 5.3 percent; compared to 14.4 percent for Black mothers, and 9.1 percent for mothers of all other races (Appendix A).

However, Lia-Hoagberg et al. (1990) found that “there were few differences for barriers to prenatal care among the low-income white (*sic*), black (*sic*) and American Indian groups” (1990, p. 489). Additionally, Cooney (1985) found in her analysis of 85,000 live

births in 1981, in New York City, that the correlation among age and race with late or no prenatal care was mediated by insurance coverage and education.

Situational Factors. Many studies concluded that the lack of health care insurance (payment method), was a crucial contributing factor in women not seeking prenatal care (Curry, 1989; Foster et al., 1992; HRSA, 1991; Leatherman et al., 1990; Lia-Hoagberg et al., 1990; Machala & Miner, 1991; Perez-Woods, 1990; Poland et al., 1987; Sable et al., 1990; Scupholme et al., 1991; St. Clair et al., 1990; Warrick et al., 1992). The issue of insurance is intimately related to a woman's socioeconomic status. A report conducted in Michigan (Smith, 1984) found the most important factor influencing utilization of prenatal services was the woman's financial status, which was determined by her income level.

Ironically, some studies found women who had Medicaid as a payment method, or were Medicaid eligible, were more likely to receive inadequate prenatal care (Kinsman & Slap, 1992; Machala & Miner, 1991; St. Clair et al., 1990; Warrick et al., 1992). One possible explanation for Medicaid-eligible women not obtaining the necessary insurance coverage is the confusion regarding eligibility and difficulty filling out forms. Insurmountable paperwork requirements may be presented to the woman applying for public assistance. For example, "in order to qualify for AHCCS (Arizona Health Care Cost Containment System, Title X demonstration program) (*sic*), a family had to be at 50 percent of the federal poverty guidelines, provide seven sources of eligibility documentation, and fill out a *36-page application form*, [italics added] which was available only in English" (Warrick et al., 1992, p. 16).

Some studies refute the lack of insurance as the primary reason for not obtaining prenatal care (Kinsman & Slap, 1992; Nolan, 1990; Schleuning, Rice & Rosenblatt, 1991; Scupholme et al., 1991). For instance, Scupholme et al. (1991) found that the main barriers to prenatal care in their study were systematic and patient-related, and financial reasons were the third most common barrier to prenatal care. Other authors argue access to

care for Medicaid-eligible women has become more of a barrier than the availability of insurance itself, especially in areas where few providers accept Medicaid as a payment method (Nolan, 1990; Schleuning et al., 1991).

The locations of a woman's home was not considered separately in the literature, but applied in the context of what transportation means the woman had available to her (Curry, 1989; Leatherman et al., 1990; Lia-Hoagberg et al., 1990; Machala & Miner, 1991; Miller, Margoli, Schwethelm, & Smith, 1989; Nolan, 1990; Poland, 1987; Warrick et al., 1992; Willis & Fullerton, 1991). However, it seems reasonable that even if a woman owns a car and can afford the gas, she may not be able to keep her prenatal appointments if the distances are great. Other mitigating influences, such as poor weather, work schedules, and difficulties arranging child care may serve to prevent the woman from attending her prenatal visit (Nolan, 1990).

Biological Factors. The MDPH criteria for adequate prenatal care was discussed in the introduction and in Appendix B. The trimester of pregnancy the woman first attempts to obtain prenatal care will determine if she receives adequate, intermediate, or inadequate prenatal care (Kessner et al., 1973). A woman's previous experiences with pregnancy may influence her decision on when to initiate prenatal care in subsequent pregnancies. For instance, multiparous women who previously had healthy outcomes may fail to recognize the importance of receiving early prenatal care (Patterson et al., 1990; St. Clair et al., 1990). The Prenatal Care Survey did not address the parity of the respondents.

Another issue related to trimester of pregnancy is the awareness of the woman of her actually *being* pregnant. In fact, Sable et al. (1990) found that one of the strongest predictors of women receiving inadequate or intermediate prenatal care was women not knowing they were pregnant in the first four months of pregnancy. Kinsman and Slap (1992) noted that almost one-half of the adolescents in their study did not know they were pregnant until someone had told them. The difficulties some women have of knowing if they are pregnant or not resulted in delaying prenatal care in other studies (Burks, 1992;

Lia-Hoagberg et al., 1990; Poland et al., 1987). Although it may be difficult to separate the issues of wanting pregnancy, planning for pregnancy, or even knowing if the pregnancy exists, it is logical that any one of these issues may serve to delay the onset of prenatal care.

Cognitive-Perceptual Factors

Perceived Barriers. Many studies concluded that the inability to pay for prenatal care was a crucial contributing factor in women not seeking prenatal care (Curry, 1989; Foster et al., 1992; HRSA, 1991; Leatherman et al., 1990; Lia-Hoagberg et al., 1990; Machala & Miner, 1991; Perez-Woods, 1990; Poland et al., 1987; Sable et al., 1990; Scupholme et al., 1991; St. Clair et al., 1990; Warrick et al., 1992). The ability to pay may be perceived wholly through the context of the availability of insurance to the woman (Curry, 1989; Perez-Woods, 1990). It may be impossible to separate the effects available insurance has on the woman's perception of her ability to pay. Indeed, many studies found the primary reason for not obtaining and continuing prenatal care was the lack of insurance (Cooney, 1985; Leatherman et al., 1990; Poland et al., 1987; St. Clair et al., 1990).

Lack of available child care was also cited as a barrier to prenatal care, although the confounding variables of lack of transportation and poverty were inexorably linked (Curry, 1989; Institute of Medicine, 1985; Lia-Hoagberg et al., 1990; Sable, Stockbauer, Schramm, & Land, 1990). Interestingly, one study controlled the variables in order to separately analyze women with children at home, and 26 percent of the 129 women (with children at home) cited child care as a major barrier to prenatal care (Lia-Hoagberg et al., 1990). This same study found "women with inadequate prenatal care (45%) were significantly more likely ($P = 0.0001$) to miss appointments due to child care problems than women with adequate (5.3%) or intermediate care (13%)" (Lia-Hoagberg et al., 1990, p. 490).

Availability of safe transportation was often found to have an important impact on a woman's ability to access and continue prenatal care (Curry, 1989; Leatherman et al., 1990; Lia-Hoagberg et al., 1990; Machala & Miner, 1991; Miller et al., 1989; Nolan, 1990; Poland et al., 1987; Warrick, et al., 1992; Willis & Fullerton, 1991). Poland et al. found a "...linear trend, with women receiving the most care who used the most expensive modes of transportation such as a car or a taxi, whereas women who received less care were more likely to use public transportation or walk" (1987, p. 300).

As stated earlier, the Cognitive-Perceptual Factors are those that exert a primary influence on the decision of the individual to seek health care. One perceived barrier to prenatal care involves length of time a woman may have to wait for her appointment. A woman's perception of the length of time waiting in a clinic as being too lengthy was found to negatively influence her likelihood of continuing to utilize prenatal services (Driscoll, Gilbert, Dennis, & Bukowy, 1990; Patterson et al., 1990; Sable et al., 1990; Young et al., 1989). Practical issues arise, such as paying for child care or missing work when the average waiting time at a clinic may be as much as two to three hours (Patterson et al., 1990). Flynn (1985) concluded that the length of waiting time perceived by pregnant women had the greatest effect on client satisfaction.

A woman's perception of her treatment by her health care provider may influence her decision whether or not to continue utilizing prenatal care services. Several studies have found evidence to support the increased risk for discontinuing prenatal care if the woman viewed her treatment by the provider negatively (Kinsman & Slap, 1992; Lia-Hoagberg et al., 1990; Poland et al., 1987; Wells et al., 1990).

It is little wonder women have difficulty finding accurate information regarding available prenatal services, given the complexity of public and private sources. As a result, the confusion, or lack of awareness, the women perceive often results in a barrier to obtaining adequate prenatal care (Machala & Miner, 1991; Miller et al., 1989, Sable et al., 1990; Wells et al., 1990). Machala and Miner stated, "to get prenatal care in the United

States, low-income women must struggle with a crazy quilt of multiple programs from different funding sources, each with different eligibility criteria, processes, and regulations that confound and confuse their efforts and those of hands-on health care providers” (1991, p. 353).

Efforts to overcome confusion about available prenatal services are somewhat contingent upon the woman’s written literacy in the English language, and the availability of a telephone (Wells et al., 1990). In addition, further confusion about available services may arise when the woman’s efforts to find a provider who accepts Medicaid are met with countless rejections (Machala & Miner, 1991; Nolan, 1990).

Perceived Control of Health. As discussed earlier, wantedness of pregnancy is conceptually distinct from planning a pregnancy. It is possible that a woman who planned for her pregnancy may be more likely to feel in control of her health. Sable et al. (1990) found that women with unplanned pregnancies were greater than twice as likely to receive inadequate prenatal care. Lia-Hoagberg et al. (1990) reported that among their cohort women who received inadequate care, 85 percent had unplanned pregnancies. When compared to their cohort women who received adequate care, 72 percent had unplanned pregnancies; the difference was not found to be significant (Lia-Hoagberg et al., 1990).

Perceived Benefits of Health-Promoting Behaviors. The importance of prenatal care as perceived by the woman can be a significant predictor of accessing and continuing the use of prenatal care services. To some women, prenatal care becomes important only when they don’t feel well, or if they feel there is a problem with the pregnancy (Patterson et al., 1990; Poland et al., 1987). Lia-Hoagberg et al. (1990) found that the strongest motivator for obtaining prenatal care was the belief that prenatal care would safeguard the health of the baby. Often, multiparous women who previously had healthy outcomes, fail to recognize the importance of receiving early prenatal care (Patterson et al., 1990; St. Clair et al., 1990). Some women simply do not regard prenatal care as a necessary service (Leatherman et al., 1990). Wells et al. (1990) discussed adolescents’ tendency to regard

themselves as having fewer needs and risks than their health-care providers did. As a consequence, the adolescents were likely to perceive prenatal care as unimportant, unless they felt poorly (Wells et al., 1990).

Cues to Action

Cues to Action, such as suggestions by a health care provider, or an advertisement about prenatal care in the lay literature, may serve to inform women about the importance of prenatal care, and increase awareness of available services in her area (Headley, 1991; Institute of Medicine, 1985; Leatherman et al., 1990). Many studies have called for improved recruitment and dissemination of information regarding prenatal care through the media (Burks, 1992; Headley, 1991; Institute of Medicine, 1985; Leatherman et al., 1990; Lia-Hoagberg et al., 1990). Public service campaigns are less costly and more feasible than outreach case finding, which is very labor-intensive (McCormick et al., 1989). Timely dissemination of available services is important to inform women, as programs often change frequently as administrators change policies in response to local politics (Nolan, 1990).

Limitations of the Literature Review

Conceptual clarity was a major limitation within the literature. Often, variables were not defined within the context of the article. For example, it was difficult to separate the meaning of the terms found in the literature, such as: ability to pay, lack of money, financial status, inadequate or no insurance, poverty, or affordable medical services. Perhaps it is impossible to determine any separate effects of each term because of their inter-relatedness. Indeed, poverty may be an overriding variable leading to a multitude of barriers (Sable et al., 1990).

Sample sizes in many studies were small, resulting in non-significant findings. Most studies had convenience samples, and were confined to a small geographic locale. However, there were several studies reporting on state-wide projects, involving large numbers of women. Additionally, there has been over a decade of national statistics on

some aspects of prenatal care. Unfortunately, some minority groups have not been adequately represented in those national studies (HRSA, 1991).

The majority of studies on barriers to prenatal care are non-experimental, descriptive studies. Therefore, there has been very little testing of descriptively generated hypothesis in controlled clinical trials (Perez-Woods, 1990).

METHODS

Design

The design of this study was descriptive, correlational, and was a secondary analysis of a survey (Appendix D) distributed and collected by members of MNA. The purpose of the survey was to identify factors which affect pregnant women's decisions to obtain prenatal care in Michigan. Also, the survey was intended in part to evaluate the effectiveness of the Baby Your Baby Campaign.

Instrumentation

The instrument was a survey developed by MNA, and was intended to help analyze, in part, the effectiveness of the Baby Your Baby Campaign. The survey contains five questions (with subquestions), concerning a woman's perceptions of what made it hard for her to obtain prenatal care. An optional section containing demographic information followed the questions about prenatal care. The responses were either dichotomous with yes or no answers, or polychotomous with multiple categories. The two open-ended subquestions were not included in this study. MNA did not perform any pilot studies prior to the distribution of the survey, and no reliability or validity data was available.

Sample

The sample consisted of 482 surveys completed between June 1991 and September 1991. This represented a convenience sample since no attempt was made to systematically sample women seeking prenatal care. All of the 482 surveys were found to be completed enough to be included in the study. If the respondents omitted answering any of the questions, the omission was entered as a missing value. The statistical software had the

capability of excluding missing values from calculations, which enabled the inclusion of all 482 surveys.

Data Collection Procedures

Surveys were given to the researcher for analysis by MNA. The data was collected by MNA in 1991. A full description of the data collection techniques utilized by MNA is found in Appendix F, "MNA Data Collection Techniques." The cover letter MNA sent to recruit the volunteer nurses is found in Appendix G, "Cover Letter to Michigan Nurses for Prenatal Care Survey." MNA's instructions for the nurses on how to collect the survey is found in Appendix H, "Instructions to Volunteer Nurses for Data Collection." The letter MNA wrote to the prospective pregnant women and accompanied the Prenatal Care Survey is found in Appendix I, "Cover Letter to Mothers for Prenatal Care Survey."

Dependent and Independent Variables

The independent variables are the Modifying Factors reported by the respondents. They are: (a) age, (b) race, (c) location of home, (d) payment method, (e) trimester of pregnancy at first attempt to obtain prenatal care. Because of the descriptive nature of the analysis, no attempt was made to formulate hypotheses.

The dependent variables are the Cognitive-Perceptual Factors identified by the respondents. They are: (a) ability to pay, (b) child care, (c) transportation, (d) "long waits" at the clinic, (e) perception of her treatment by her health care providers, (f) unaware or confused about services, (g) planned or unplanned pregnancy, (h) importance of prenatal care.

Operational Definitions

Cognitive-Perceptual Factors

Perceived Barriers. Perceived Barriers were identified from question number five in the survey, "Which things were hard about getting prenatal care?" The respondents reported yes or no to each subquestion. A response of "yes" indicated a perceived barrier.

There were eight subquestions in question five that were defined as identifying the concept of Perceived Barriers. The variables describing the concept of Perceived Barriers were: (a) ability to pay, (b) child care, (c) transportation, (d) "long waits" at the clinic, (e) perception of her treatment by her health care providers, and (f) unaware or confused about services.

"Ability to pay" was derived from the respondents answering yes or no to the subquestion "I couldn't pay for it." "Child care" was indicated from the respondents answering yes or no to the subquestion "I didn't have child care for other children." "Transportation" was obtained from the respondents answering yes or no to the subquestion "I didn't have transportation." The subquestion asking respondents to answer yes or no in response to "there were long waits at the clinic" was operationalized as "long waits at the clinic." The respondents' "perception of her treatment by her provider" was derived from the subquestion asking yes or no to the statement "I didn't like how health care providers treated me." The concept of "unaware/confused about services" was determined from three subquestions which asked the respondents to reply yes or no: (a) "I didn't know who to call," (b) "I didn't know how to find a doctor who would take my insurance," and (c) "I didn't know how to find a hospital that would take my insurance."

Perceived Control of Health. "Perceived control of health" was a concept defined by the variable "planned/unplanned pregnancy." The variable was determined from question number one, "Was this a planned pregnancy?" The respondents reported either yes or no. A response of "yes" indicated the pregnancy was planned; a response of "no" indicated the pregnancy was not planned.

Perceived Benefits of Health-Promoting Behavior. "Perceived benefits of health-promoting behavior," was described by the variable of "importance of prenatal care," This variable was interpreted from a part of question five, "I had too many other things to do." The interpretation of this question was based on the assumption that if prenatal care was

perceived as providing benefits to the woman and her child, she would decide to prioritize her daily activities differently to enable her to obtain prenatal care.

Modifying Factors

Demographic Factors. Age was a variable that is part of the demographic factors. The question “What is your age” was categorized under the optional demographic section of the survey in question number three. Therefore, age as a demographic factor was operationalized by the category selected by each respondent. There were five categories of age in the survey. Each category was assigned a code number from 1 to 5 for data analysis.

The demographic variable of “race” (or ethnicity) was categorized in question four of the optional demographic section. Race was operationalized by the category selected by each respondent. The survey contained seven options under question four. Each category was assigned a code number from 1 to 7 for data analysis. If more than one category was marked by the respondent, the answer was coded as a missing value.

Situational Factors. “Location of home” as a situational factor was operationalized as the zip code of the subject’s residence. Respondents were asked “what is your zip code” under question two in the optional section of the survey. Zip codes were categorized by their respective region of Michigan. Appendix J entitled “Divisions of Michigan by Zip Code for Analysis” demonstrates regions assigned by the United States Post Office for Michigan. Five general regions were coded numerically according to the zip code provided by the respondent and used for purposes of data analysis: (1) Iron Mountain/Gaylord, (2) Grand Rapids/Traverse City/Kalamazoo, (3) Saginaw/Lansing/ Jackson, (4) Flint, Royal Oak, and (5) Metropolitan Detroit. Missing zip codes were entered as a missing value.

The situational factor of “payment method” was categorized under question five in the demographics section. Payment method was operationalized by the which category the respondent selects. Respondents had six options to choose a payment method from, and they were coded as: (1) I have Medicaid/MICH-Care, (2) I have Blue Cross or other

private insurance that will cover everything, (3) I do not have insurance, (4) I do not know how I will pay, (5) My insurance will cover some costs but not everything, (6) other, please state. If a respondent selected more than one option, it was coded as a missing value.

Biologic Factors. The biological variable of "trimester of pregnancy before first attempt to obtain prenatal care" was identified from question three, and the length of time was described by categories. The variable "trimester of pregnancy before first attempt to obtain prenatal care" was operationalized by which category the respondent selected from question three. The trimester of pregnancy was coded as: 1 = "less than 3 months," 2 = "3 - 6 months," and 3 = "more than 6 months."

Cues to Action

Cues to Action were identified in questions one, parts (a) and (b) of the survey. Question two of the survey was not considered a cue to action for purposes of this thesis. Additionally, no attempt was made to describe a relationship between Cues to Action and Cognitive-Perceptual Factors because the survey did not attempt to ascertain any relationships in regards to the Cues to Action.

Question 1.a. of the survey asked the respondents if they had seen or heard of the Baby Your Baby ads. As "yes" response was coded as a "1", and a "no" response was coded as a "2." The second half of 1.a. was excluded from the analysis. Question 1.b. asked the respondents if they called the Hotline number. Again, "yes" or "no" was coded as a "1" or as a "2."

Question number four in the survey asked the respondents about the length of time they had to wait for their first prenatal visit. However, question four contained overlapping categories between three-four weeks of pregnancy and four to six weeks of pregnancy. Consequently, a category was created to include three to six weeks of pregnancy. There were four categories coded for the analysis: (1) less than one week, (2) one to two weeks, (3) three to six weeks, and (4) more than six weeks. Frequencies of the categories are

reported. Because of the overlapping categories, no further analysis was done utilizing question four.

Assumptions and Limitations

It was assumed the women were able to understand the questions. The data provided was by self-report and the assumption was made that they answered the questions as honestly as possible.

The MNA Prenatal Care Survey was limited by its descriptive, non-experimental nature. Additionally, other factors influencing women's decisions to obtain prenatal care that were identified in the literature, such as education level, wantedness of pregnancy and other psychosocial variables, the woman's social support network, (to name a few), were not addressed in the MNA Prenatal Care Survey (Cooney, 1985; Curry, 1989; Perez-Woods, 1990).

The survey was an untested instrument; there was no psychometric analysis performed on the Prenatal Care Survey for validity and reliability. No attempts were made to control sampling procedures and collection of data. Because responses were limited to yes or no answers on question five, statistical analysis was limited to frequencies, proportions, and chi-square analysis. Additionally, accuracy on demographic data was compromised by categorical answers. For instance, instead of asking the actual age of the respondents, five separate categories were listed as options. Open-ended questions were excluded from the analysis.

The study was limited to those who completed the forms voluntarily and who were in a prenatal care service delivery site where a registered nurse had volunteered to collect the data for MNA. Therefore, the subjects were women who had been receiving some form of prenatal care in Michigan so the generalizability to other settings is not possible. Also, the sample was a convenience sample, and therefore not representative of the pregnant women in Michigan.

Strengths of the MNA Survey

The importance of the MNA Survey should not be negated. The study was dispersed throughout the state, involving nurses on a volunteer basis who administered the survey. Activities such as this serve to enrich the profession, develop new survey instruments, and direct future research activities. Several questions were included to ask the respondents what their perceptions were on the difficulties they faced in obtaining prenatal care. Valuable data was gathered in regards to awareness of prenatal services, and demographics of the respondents. Because the sample size was 482, the results had sufficient statistical power in which the author was able to draw conclusions about relationships between the variables based on cross-tabulations and chi-square analysis (Polit & Hungler, 1991).

Data Analysis

The significance level for the data analysis was established at .01. All statistics were computed on an Apple Macintosh IIfx using *SYSTAT*™ for the statistical software. Missing values were excluded from the calculations. The *SYSTAT*™ statistical software manual instructed the researcher to code missing values as a period (“.”). Accuracy of data entry was controlled by using two graduate students verifying coded values.

Research Question One

Is there a relationship between Perceived Barriers and demographic, situational, and biological factors? The dichotomous nature of the responses in the "Perceived Barriers" necessitated utilizing frequencies and cross-tabulations. The chi-square statistic (χ^2) was applied to the contingency tables to test the significance of different proportions. The responses of yes or no to Perceived Barriers was cross-tabulated with the responses from the variables identified under the Modifying Factors of age, race, location of home, payment method, and trimester pregnant when first attempt was made to obtain prenatal care.

Research Question Two

Is there a relationship between perceived control of health and demographic, situational, and biological factors? The response required by the question of pregnancy being planned or unplanned was yes or no. Therefore, data analysis was performed in an identical manner as for Research Question One.

Research Question Three

Is there a relationship between perceived benefits of health-promoting behaviors and demographic, situational, and biological factors? The response options to the question related to importance of prenatal care was yes or no. Again, bivariate statistics are appropriate for this question. Data analysis was performed in an identical manner as for Research Question One.

Research Question Four

How many respondents were aware of the Baby Your Baby campaign? The frequency and percentages of women who responded with "yes" or "no" to the question of, "Have you heard or seen the 'Baby Your Baby ads?'" were reported for this analysis.

Research Question Five

How many respondents reported having called the Baby Your Baby Hotline number? The frequencies and percentages of women who answered "yes" or "no" to part b of question one on the Prenatal Care Survey are reported in the analysis. No attempts were made to analyze correlations between question one, parts (a) and (b), and the other variables.

Research Question Six

How long were the respondents pregnant before they first tried to get prenatal care? The options listed for the response in question three on the Prenatal Care Survey are in categories. "Less than 3 months, 3 - 6 months, and more than 6 months" were the possible responses. In order to answer research question three, the frequencies for each category were reported.

Procedures for Protection of Human Subjects

This study was a secondary analysis of a survey collected by MNA. There were no identifying names or any other sources of identification found on the survey. Participation by the nurses who collected the data and the women who provided the data was directed by MNA to be strictly voluntary. Approval for this secondary analysis was obtained from the Michigan State University Committee on Research involving Human Subjects (Appendix K).

RESULTS

Description of Sample

The sample consisted of 482 women who were in a prenatal care setting where there was a nurse willing to collect data for MNA. Of the 482 women, seven (2%) were less than age 15; 143 (30%) were ages 15 to 20; 265 (56%) were ages 21 to 30; 55 (12%) were ages 31 to 40, and one respondent was over the age of 40. Eleven women did not state their age. It was not possible to accurately compare ages of this sample to statistics from MDPH (1992) due to different categorization of ages.

As stated, there were only seven subjects who were less than age 15 and only one subject that was older than 40 of the 471 subjects that indicated a category for their age. For this reason, the Demographic Factor of age was collapsed into three categories from the original five choices included on the survey. The three categories became: a) subjects less than age 20, b) subjects 21 to 30, and c) subjects 31 and older.

The 482 respondents consisted of 342 (73%) White women, 96 (21%) Black women, 11 (2%) Hispanic women, 5 (1%) Native American women, 6 (1%) Arabic women, 6 (1%) Asian/Pacific Islander women, and 4 (1%) women who marked "other" for a category. There were 12 women who did not state their race. MDPH (1992) reported that of a total of 148,164 live births in 1989, approximately 78 percent were of White women, approximately 20 percent were of Black women, and 2 percent were of all other races.

Because there were small numbers of women in racial/ethnic groups of Hispanic, Asian/Pacific Islander, Arabic, and others, these categories were collapsed. Therefore, racial groups were coded as: Group 1 = White women, Group 2 = Black women, and Group 3 = all other racial groups of women.

The location of the respondents' domicile was determined from their zip code and then assigned a region (refer to Appendix J). There was one respondent from the Iron Mountain/Gaylord area; 129 (28%) from the Grand Rapids/Traverse City/Kalamazoo area; 138 (30%) from the Saginaw/Lansing/Jackson area; 51 (11%) from the Flint/Royal Oak area; and 145 (31%) from the Metropolitan Detroit area. There were 18 respondents who did not provide their zip code.

The lack of respondents from the Upper Peninsula and northern Michigan was a departure from sample characteristics found by Kerr (1991) on the analysis of the prenatal care survey sent to registered nurses throughout Michigan. Because there were so few respondents from the Upper Peninsula and from northern Michigan, the zip code categories were collapsed into four groups. The Upper Peninsula/Gaylord area was combined with the Western Michigan area that included Grand Rapids, Traverse City, and Kalamazoo and was recoded as Group 1 during the data analysis. Group 2 became Saginaw/ Lansing/ Jackson, Group 3 became Flint/Royal Oak, and Group 4 became Detroit.

Of the 482 women, 462 provided a response to the question if their pregnancy was planned or not. There were 145 (69%) women who answered "yes," their pregnancy was planned, and 317 women who answered "no," their pregnancy was not planned. The data provided by the MDPH (1992) report on 1989 Health Statistics did not include information regarding whether or not Michigan women planned their pregnancies for a comparison.

The payment method selected by the respondents was heavily represented by those on Medicaid or MICH-Care. Of the 466 women who indicated their payment method, 352 (76%) answered they had Medicaid or MICH-Care. Of the remaining 114 respondents, 49

(10%) indicated they had Blue Cross or other private insurance that covered everything, 20 (4%) said they did not have insurance, 10 (2%) answered they did not know how they would pay, 31 (7%) said their insurance would cover some of the costs but not all, and 4 (1%) marked the “other” category. There were several surveys that included more than one response regarding payment method, and those had been coded as a missing value.

Other Background Material

The surveys used for this secondary analysis are the property of MNA. Because MNA did not participate in this data analysis, MNA does not ensure the accuracy of the results. Any part or all of this report may be used by the MNA as they deem appropriate.

Answers to Research Questions

1. Is there a relationship between Perceived Barriers and Demographic, Situational, and Biological Factors?

1.a. Is there a relationship between Perceived Barriers and Demographic Factors?

The results in Table 1 indicate there were no significant relationships between the respondent’s age in categories and the Perceived Barriers. Statistically, the variables were independent, meaning the actual frequencies did not vary to a large degree from the expected frequencies.

Closer examination of Table 1 reveals similarities among the categories of age. The major barriers cited by the respondents in all three categories were “not able to pay,” “could not find a doctor,” “long waits at the clinic,” “transportation,” and “not knowing who to call.”

Women whose age was 20 or less had higher percentages of a “yes” response among these five barriers, with the exception of the barrier “long wait at the clinic.” The barrier that had the highest percentage of a “yes” response in all three age categories was “not able to pay.”

Table 1

Cross-tabulations and Chi-Square Analysis of Perceived Barriers by Age

Perceived Barriers	Age									χ^2
	≤ 20			21 - 30			31 and older			
	Yes	No	n	Yes	No	n	Yes	No	n	
	%			%			%			
Was not able to pay	42.7	57.3	143	41.4	58.6	249	35.3	64.7	51	0.861
Child care	10.5	89.6	134	14.0	86.0	243	8.0	92.0	50	1.939
Transportation	25.7	74.3	140	23.1	76.9	247	23.5	76.5	51	0.347
Long waits at the clinic	27.3	72.7	139	26.7	73.3	240	32.0	68.0	50	0.593
Treatment by provider	6.7	93.3	134	10.8	89.2	240	6.0	94.0	50	2.396
Didn't know who to call	29.6	70.4	142	19.8	80.2	247	21.6	78.4	51	4.887
Couldn't find a doctor	38.0	62.0	142	32.3	67.7	251	28.0	72.0	50	2.148
Couldn't find a hospital	24.3	75.7	136	13.5	86.5	244	18.0	82.0	50	7.008

Note. Degrees of freedom for analyses in this table was 2. * indicates $p \leq .01$.

Table 2 indicates there were two instances where the Perceived Barriers were statistically related to race. The two Perceived Barriers were “long waits at the clinic,” and “treatment by the provider.” The Perceived Barriers were statistically dependent, because the obtained frequencies differed greatly from the expected frequencies. The Perceived Barrier of “treatment by the provider” had approximately 94 percent of the White respondents, 85 percent of the Black respondents, and 75 percent of all other races had answered “no.” This difference of 94 percent (White respondents) versus 75 percent (all other races) was substantial enough to result in a statistically significant relationship.

Table 2

Cross-tabulations and Chi-Square Analysis of Perceived Barriers by Race

Perceived Barriers	Race									χ^2
	White			Black			All Others			
	Yes	No	n	Yes	No	n	Yes	No	n	
	%			%			%			
Was not able to pay	44.2	55.8	321	31.5	68.5	89	40.6	59.4	32	4.697
Child care	11.0	89.0	310	14.8	85.2	88	17.9	82.1	28	1.819
Transportation	21.4	78.6	318	31.5	68.5	89	33.3	66.7	30	5.288
Long waits at the clinic	23.6	76.5	310	37.8	62.2	90	39.3	60.7	28	9.132 *
Treatment by provider	5.8	94.2	308	14.9	85.1	87	25.0	75.0	28	16.276 *
Didn't know who to call	21.2	78.8	321	25.8	74.2	89	41.4	58.6	29	6.393
Couldn't find a doctor	30.6	69.4	324	40.9	59.1	88	50.0	50.0	30	7.013
Couldn't find a hospital	15.7	84.4	313	23.0	77.0	87	24.1	75.7	29	3.392

Note. Degrees of freedom for all analyses in this table was 2. * indicates $p \leq .01$.

Similarly, the differences between White respondents, Black respondents, and all other respondents regarding the Perceived Barrier of “long waits at the clinic” were substantial. Approximately 76 percent of White respondents had answered “no” in comparison to 62 percent of Black respondents and 61 percent all other races.

Conversely, the Perceived Barrier of “not able to pay” showed remarkable similarities between racial groups. White respondents answered “yes” at a somewhat higher percentage than did Black respondents and all other races. The category of all other races answered “yes” at a higher percentage to all the other Perceived Barriers other than the barrier “ability to pay.”

The mixed results prevented a complete answer for question 1.a. There was a lack of evidence to support or to deny a claim stating there was a relationship between the Perceived Barriers and Demographic Factors.

1.b. Is there a relationship between Perceived Barriers and Situational Factors?

Table 3 indicates there was one instance when the Perceived Barrier was statistically dependent to Location of Home. The Situational Factor of “could not find a doctor” showed a substantial difference between the Detroit area and the other three zip code categories. Only about 21 percent of respondents from the Detroit area answered “yes” to the Perceived Barrier of “not being able to find a doctor,” compared to almost 40 percent of the respondents that had answered “yes” from the other three locations.

The major barrier identified in addition to “could not find a doctor” was “ability to pay.” However, the differences between the groups were less substantial. Approximately 31 percent of the Detroit respondents answered “yes” to “ability to pay” compared to over 44 percent of “yes” answers from the respondents of the other three locations. “Child care” and “treatment by provider” were the barriers with the smallest percentage of “yes” responses in all four locations.

Table 4 indicates there were four instances where the Perceived Barriers showed a statistical relationship to Payment Method. The four barriers were: “not able to pay,” “long waits at the clinic,” “could not find a doctor,” and “could not find a hospital.”

The differences in percentages between these four barriers were fairly substantial. There were almost twice as many respondents who had answered “yes” in the Medicaid/MICH-Care group regarding “not able to pay.” The barrier “not able to pay” showed that about 47 percent of the Medicaid/MICH-Care respondents had answered “yes,” compared to only about 24 percent of the Blue-Cross and all others. Similarly, over twice as many Medicaid/MICH-Care respondents had answered “yes” to the barriers “could not find a doctor,” and “could not find a hospital” compared to the Blue-Cross and all others group. Although the difference between groups was not quite twice as much in the

barrier “long waits at the clinic,” the difference in percentage was substantial and therefore was statistically dependent.

Table 3

Cross-tabulations and Chi-Square Analysis of Perceived Barriers by Location of Home

Perceived Barriers	Location of Home												χ^2
	Western			Central			East			Detroit			
	Yes	No	n	Yes	No	n	Yes	No	n	Yes	No	n	
	%			%			%			%			
Not Able to Pay	44.4	55.7	124	45.4	54.6	130	46.8	53.2	47	31.1	68.9	135	7.728
Child Care	10.9	89.1	119	19.0	81.0	121	8.9	91.1	45	8.1	91.9	136	8.070
Transportation	25.8	74.2	124	27.0	73.0	126	23.9	76.1	46	19.3	80.7	135	2.505
Long waits at the clinic	32.5	67.5	120	28.2	71.8	124	30.2	69.8	43	21.3	78.7	136	4.307
Treatment by provider	7.4	92.6	122	6.7	93.3	119	9.5	90.5	42	12.6	87.4	135	3.254
Didn't know who to call	22.0	78.1	123	25.8	74.2	128	23.5	76.6	47	21.5	78.5	135	0.811
Couldn't find a doctor	40.5	59.5	126	39.1	60.9	128	39.1	60.9	46	21.3	78.7	136	14.106*
Couldn't find a hospital	16.3	83.7	123	20.5	79.5	122	26.7	73.3	45	12.8	87.2	133	5.558

Note: Degrees of freedom for all analyses in this table was 3. * indicates $p \leq .01$.

Western = Upper Peninsula, Gaylord, Traverse City, Grand Rapids

Central = Lansing, Jackson, Saginaw

East = Flint, Royal Oak

Detroit = Metropolitan Detroit (Refer to Appendix J for schematic on zip codes)

There were mixed findings in examining the analysis for relationships between Perceived Barriers and Situational Factors. There was insufficient evidence to adequately answer question 1.b. due to the mixed results of the findings. There was a lack of evidence to support or to deny a claim stating there was a relationship between the Perceived Barriers and Situational Factors.

Table 4

Cross-tabulations and Chi-Square Analysis of Perceived Barriers by Payment Method

Perceived Barriers	Payment Method						
	Medicaid/MICH-Care			Blue-Cross & All others			χ^2
	Yes %	No %	n	Yes %	No %	n	
Was not able to pay	47.2	52.8	333	23.8	76.2	105	17.902*
Child care	13.4	86.5	319	7.8	92.2	103	2.391
Transportation	27.4	72.6	328	15.2	84.8	105	6.404
Long waits at the clinic	31.3	68.7	323	16.8	83.8	101	7.985*
Treatment by provider	9.1	90.9	320	9.1	90.9	99	0.000
Did not know who to call	25.2	74.8	329	17.9	82.1	106	2.382
Could not find a doctor	40.4	59.6	337	12.9	87.1	101	26.153*
Could not find a hospital	21.5	78.5	326	6.1	93.9	99	12.283*

Note: Degrees of freedom for all analyses in this table was 1. * indicates $p \leq .01$.

1.c. Is there a significant relationship between Perceived Barriers and the Biological Factor?

Table 5 indicates there were three instances when Perceived Barriers were statistically related to trimester of pregnancy at first attempt to obtain prenatal care. The barriers were “child care,” “transportation,” and “did not know who to call.” The differences between the first group, (women less than 3 months pregnant), and the third group (women more than 6 months pregnant) were quite substantial throughout most of the barriers. The only barrier where the third group does not have a higher percentage of “yes” responses than the first group is “long waits at the clinic.”

The second group (three to six months pregnant) had answered “yes” at a higher percentage rate for all the barriers than did the first group. Virtually one-half of the respondents in group two answered “yes” to the barriers “was not able to pay.” Almost 37 percent of the respondents in group two answered “yes” to the barriers “transportation” and to “did not know who to call.”

The barrier “could not find a doctor” had fairly high percentages of “yes” responses in all three groups, with over 40 percent of the respondents in groups two and three answering “yes” to this barrier. This was an expected finding, as the number of physicians in Michigan who accept Medicaid/MICH-Care has been declining in recent years (Nolan, 1990).

2. Is there a relationship between Perceived Control of Health and Demographic, Situational, and the Biological Factors?

The results of table 6 indicate there were three instances when there was a statistical relationship between Modifying Factors and Perceived Control of Health. The three Modifying Factors were: age, payment method, and the biological factor.

The three groups of age categories reveal substantial differences in those who had planned their pregnancies and those who had not. The group with the largest percentage (about 80%) of respondents who had not planned their pregnancy was group one, or those

women whose age was 20 years or less. There was not a great deal of difference in the percentage of planned pregnancies between women whose age was 21 to 30 compared to women whose age was greater than 30 (about 62% versus 68%, respectively).

Table 5

Cross-tabulations and Chi-Square Analysis of Perceived Barriers by Trimester of Pregnancy at First Attempt to Obtain Prenatal Care

Perceived Barriers	Trimester of Pregnancy at First Attempt Obtain Prenatal Care									
	< 3 months			3 - 6 months			> 6 months			χ^2
	Yes %	No %	n	Yes %	No %	n	Yes %	No %	n	
Was not able to pay	37.5	62.5	312	49.6	50.4	121	70.0	30.0	10	8.659
Child care	9.2	90.8	303	17.4	82.6	115	44.4	55.6	9	14.128*
Transportation	19.1	80.9	309	37.0	63.0	119	40.0	60.0	10	16.223*
Long waits at the clinic	25.7	74.3	304	31.0	69.0	116	22.2	78.0	9	1.338
Treatment by provider	7.9	92.1	303	10.8	89.2	111	22.2	78.0	9	2.801
Didn't know who to call	17.3	82.7	312	37.0	63.0	119	44.4	55.6	9	21.043*
Couldn't find a doctor	29.5	70.5	315	42.9	57.1	119	44.4	55.6	9	7.405
Couldn't find a hospital	15.9	84.1	309	21.4	78.6	112	22.2	78.0	9	1.918

Note: Degrees of freedom for all analyses in this table was 2. * indicates $p \leq .01$.

The difference between the groups of payment methods was perhaps more dramatic. Almost one-half (about 48%) of the women who had Blue-Cross or other payment methods had answered “yes” to the question of whether or not pregnancy was planned. Only about 25 percent of the women who had Medicaid or MICH-Care had said they had planned their pregnancies.

Similarly, the differences between the trimester of pregnancy at first attempt to obtain prenatal care and whether or not the pregnancy was planned was quite substantial. Almost 37 percent of the respondents who had attempted to obtain prenatal care the first trimester of their pregnancy had said they had planned their pregnancy. In contrast, only about 20 percent of the women who had first attempted to obtain prenatal care in group two (3 - 6 months of pregnancy) and group three (greater than 6 months of pregnancy) had indicated they had planned their pregnancy.

Table 6 did not contain unexpected findings. There were not substantial differences between racial groups or between the locations of the respondents in whether or not their pregnancy was planned.

There were mixed findings in examining the analysis for relationships between Perceived Control of Health and Modifying Factors. There was insufficient evidence to adequately answer question 2 due to the mixed results of the findings. The results in Table 6 failed to support or to deny a claim that a relationship existed between Modifying Factors and Perceived Control of Health.

3. Is there a relationship between Perceived Benefits of Health-Promoting Behaviors and Demographic, Situational, and the Biologic Factor?

Table 7 indicates there were no statistically dependent relationships between Modifying Factors and the Cognitive-Perceptual Factor of “too busy to obtain prenatal care.” The overwhelming majority of respondents had answered “no” to the question of being too busy to obtain prenatal care. The one possible exception was the group of respondents who were greater than six months pregnant at their first attempt to obtain prenatal care.

Table 6

Cross-tabulations and Chi-Square Analysis of Demographic Factors, Situational Factors, and the Biological Factor by Perceived Control of Health

Modifying Factor	Pregnancy was Planned			χ^2
	n	Yes %	No	
Age (df = 2)				13.787*
≤20	149	20.13	79.87	
21-30	256	37.89	62.11	
>30	56	32.14	67.86	
Race (df = 2)				5.240
White	332	33.43	66.57	
Black	96	21.88	78.12	
All Others	32	37.50	62.50	
Location of Home (df = 3)				5.510
Western	127	25.98	74.02	
Central	134	29.85	70.15	
Eastern	51	43.14	56.86	
Detroit	142	33.80	66.20	
Payment Method (df = 1)				20.613*
Medicaid/MICH-Care	343	25.07	74.93	
Blue-Cross/All others	113	47.79	52.21	
Trimester of Pregnancy at First Attempt to Obtain Prenatal Care (df = 2)				12.627*
<3 months	320	36.56	63.44	
3 - 6 months	127	19.69	80.31	
> 6 months	10	20.00	80.00	

* indicates a $p \leq .01$

(note: Western = Upper Peninsula/Gaylord/Traverse City/Grand Rapids/Kalamazoo; Central = Saginaw/ Lansing/Jackson; Eastern = Flint, Royal Oak; Detroit = Metropolitan Detroit. See Appendix J)

Twenty percent of these women had responded “yes,” meaning they perceived that they had been too busy to obtain prenatal care. However, the sub-sample size was small ($n = 10$), meaning only two women had answered “yes.” The results of this sub-sample may be difficult to interpret due to the small number of women, but it was noted that being too busy was a problem for 20 percent of the women who had not tried to obtain prenatal care until they were more than six months pregnant.

4. How many respondents were aware of the Baby Your Baby campaign?

There were 482 ($N = 482$) returned surveys from the respondents, and 473 ($n = 473$) answered question one of the survey (refer to Appendix L, “Frequency Table of Uncollapsed Data”). Of the 473 respondents, 241 (51 percent) answered “yes,” interpreted as meaning they had heard of or had seen the Baby Your Baby campaign advertised. There were 232 respondents who answered “no,” or 49 percent of the subsample.

5. How many respondents reported having called the Baby Your Baby Hotline number?

There were 470 ($n = 470$) respondents who answered 1.b. of the survey. Only 28 (6 percent) of the subsample answered “yes,” and 442 (94 percent) answered “no.”

6. How long were the respondents pregnant before they first tried to find prenatal care?

There were 476 ($n = 476$) respondents who answered question 3 of the survey. The answers contained three categories: (a) less than three months, (b) three to six months, and (c) more than six months. There were 336 (71 percent) respondents who answered “less than three months,” 130 (27 percent) respondents answered “three to six months,” and 10 (2 percent) respondents answered “more than six months.”

7. How long did the respondents have to wait before their first appointment?

There were 476 ($n = 476$) respondents who answered question 4 of the survey. Although the survey contained five possible answers, the categories were collapsed into four due to overlapping choices. The categories became: (a) less than one week, (b) one - two weeks, (c) three to six weeks, and (d) more than six weeks. There were 79 (17 percent) respondents who answered “less than one week,” 138 (29 percent) answered “one

Table 7

Cross-tabulations and Chi-Square Analyses of Modifying Factors and Perceived Benefits of Health-Promoting Behaviors

Modifying Factors	Too Busy to Obtain Prenatal Care			χ^2
	n	Yes %	No	
Age ($df = 2$)				0.046
<20	137	5.84	94.16	
21-30	242	5.37	94.63	
>30	51	5.88	94.12	
Race ($df = 2$)				4.241
White	310	4.19	95.18	
Black	90	8.89	91.11	
All Others	29	10.34	89.66	
Location of Home ($df = 3$)				3.288
Western	122	4.92	95.08	
Central	120	6.67	93.33	
Eastern	44	0.00	100.00	
Detroit	137	6.57	93.43	
Payment Method ($df = 1$)				0.014
Medicaid/MICH-Care	323	5.57	94.43	
Blue-Cross/All others	102	5.88	94.12	
Biological Factor ($df = 2$)				4.692
<3 months	304	4.61	95.39	
3 - 6 months	114	6.14	93.86	
> 6 months	10	20.00	80.00	

* indicates a $p \leq .01$

(note: Western = Upper Peninsula/Gaylord/Traverse City/Grand Rapids/Kalamazoo; Central = Saginaw/ Lansing/Jackson; Eastern = Flint, Royal Oak; Detroit = metropolitan Detroit. See Appendix J)

to two weeks,” 216 (45 percent) answered “three to six weeks,” and 43 (9 percent) answered “more than six weeks.”

DISCUSSION

Interpretation of the Results

Major Barriers Identified in the Study

In this descriptive study, 482 pregnant Michigan women were asked to respond to questions regarding what factors may have influenced their decision to obtain prenatal care. One part of the survey specifically asked the women to respond to questions about what factors made it difficult for them to obtain prenatal care. The results of the study showed remarkable consistencies in the responses; regardless of the age group, the racial group, the location of the respondents' home, the respondents' payment method, or the trimester of pregnancy when the respondents first attempted to obtain prenatal care. The two most common reasons the women in this study cited as making it hard for them to obtain prenatal care was: (a) they were not able to pay for it, and (b) they could not find a doctor who would take their insurance.

The overall findings of this study were consistent with the literature in terms of women deciding to utilize prenatal services based in part on their ability to pay. The effects poverty had on a woman's ability to pay and the concomitant use of Medicaid as a payment method often combined for a net correlation of sub-optimal prenatal care (Curry, 1989; Foster et al., 1992; HRSA, 1991; Leatherman et al., 1990; Lia-Hoagberg et al., 1990; Machala & Miner, 1991; Perez-Woods, 1990; Poland et al., 1987; Sable et al., 1990; Scupholme et al., 1991; St. Clair et al., 1990; Warrick et al., 1992). Of the 448 women who responded to the question of ability to pay, 41 percent said they could not pay for prenatal care. Only 4 percent of the respondents said they did not have any insurance, and 2 percent of the women said they did not know how they would pay for prenatal care. About 7 percent of the respondents said their insurance would cover some, but not all, of the costs for prenatal care. Although approximately 87 percent of the respondents had some form of

insurance, about 41 percent of the respondents said they did not have the ability to pay for prenatal care.

As seen in Tables 1 through 3, and in Table 5, there were no significant differences in frequencies of yes and no responses to the question of ability to pay for the age groups, the racial groups, the location of the respondents' home, and the trimester of pregnancy at the respondents' first attempt to obtain prenatal care. As expected, the Situational Factor of Payment Method showed a significant difference between the Medicaid/MICH-Care group and the Blue-Cross/all others group and the percentages of respondents perceiving they did not have the ability to pay (see Table 4).

It was somewhat perplexing that almost one-half of the respondents perceived they did not have the ability to pay for prenatal care, when almost 87 percent of the respondents had some form of insurance. What factors, then, had influenced those women who perceived they did not have the ability to pay for prenatal care?

The answers are very likely to be complex, multifactorial, and may originate from three basic sources: the client, the providers, and the system. For instance, it was noted that over 61 percent of the respondents had called a doctor first to obtain prenatal care (refer to Appendix L). Perhaps the respondents' perception was that the "Gold Standard" for prenatal care remains the physician in private practice. If the woman experiences numerous rejections by private practices due to their not accepting Medicaid or MICH-Care, she may feel she did not have the ability to pay for prenatal care and must, therefore, accept attending a "substandard" community clinic.

Providers may reject Medicaid clients due to the former's lack of understanding the complex regulations or the former's not having the administrative support to collect in a timely manner from governmental organizations. Or, the provider's practices may contribute indirectly to the client's perception of not being able to pay by not utilizing cost-effective resources (such as nurses in advanced practice) to control expenditures toward

prenatal care delivery, consequently they demand fees beyond the insurance's various accepted rates (Machala & Miner, 1991; Miller et al., 1989; Nolan, 1990).

Systemic barriers are likely to confuse patients and providers, enhancing the likelihood of the patients perceiving they are not able to afford prenatal care. The multitude of insurance companies, policies, and governmental regulations make it difficult, at best, for women seeking prenatal care and knowing exactly what is covered and what is not.

Closely linked to the lack of ability to pay for prenatal care were the problems women in this study experienced finding a doctor who would take their insurance. Approximately 75 percent of the respondents had Medicaid or MICH-Care as their form of payment method. Slightly more than 33 percent of the respondents said it was hard for them to obtain prenatal care because they could not find a doctor who would take their insurance.

As seen in Table 3, a substantial percentage (39 percent or more) of women outside of the Detroit area said "yes" to the question of not being able to find a doctor who would take their insurance. As Nolan (1990) had discussed, the problems of physicians accepting Medicaid or MICH-Care in Michigan, particularly in rural areas, have intensified recently due to low reimbursements and governmental requirements.

The percentage of women in the Detroit area who said "yes" to the question of not being able to find a doctor who would take their insurance was significantly lower than women from the other areas of Michigan (refer to Table 3). However, it was noteworthy that 21 percent of Detroit area women had answered "yes" to this question. It would be reasonable to assume that a large metropolitan area would have a relatively high number of prenatal care providers who would be able to accept women with Medicaid. Perhaps a more accurate depiction would be to claim that the ratio of the number of providers accepting Medicaid to the number of women who are Medicaid recipients was not sufficient to meet the needs in the metropolitan Detroit area. It becomes most sobering to realize there may indeed be insufficient resources in terms of obstetric providers in an area known to have infant mortality rates exceeding that of some Third World countries (Poland et al., 1987).

The finding of 33 percent of the respondents saying it was hard to obtain prenatal care because they could not find a doctor who would take their insurance was supported by some of the studies (Kinsman & Slap, 1992; Machala & Miner, 1991; St. Clair et al., 1990; Warrick et al., 1991). The problem of not being able to find a doctor who would take their insurance is particularly acute among women who have Medicaid. However, this problem is not limited to those women on Medicaid. Many women seek health care providers who “participate” with the former’s particular insurance in an attempt to avoid co-payments (Machala & Miner, 1991).

Unexpected findings. It was an unexpected finding that women whose ages were 20 or less had answered “no” at a frequency of 93 percent to the Perceived Barrier of not liking the “treatment by provider.” There is a common perception that adolescents are more likely to rebel against authority and may be more likely to misinterpret requests by health care providers to modify health habits (Kinsman & Slap, 1990).

The barrier that showed virtually no difference in percentage to Payment Method was “treatment by provider.” This was somewhat of a surprise due to the common misperception that Medicaid clients must endure less-than-preferential treatment than those with private insurance. Additionally, the Medicaid/MICH-Care respondents had a much higher percentage of “yes” responses to the barrier “long waits at the clinic.” One possible explanation is that the Medicaid/MICH-Care respondents thought they experienced acceptable treatment by the provider(s), despite having a perception of long waits at the clinic.

The finding of only about 13 percent of the Medicaid/MICH-Care respondents having answered “yes” to the barrier of “child care” was also unexpected. Child care was often cited in the literature (Curry, 1989; Lia-Hoagberg et al., 1990; Sable et al., 1990) as a barrier for women obtaining prenatal care, *especially* for low-income women.

Only about 27 percent of the Medicaid/MICH-Care women answered “yes” to the barrier of transportation. Again, it was expected the percentage would be higher. Realistically, it is still a major problem when over one-fourth of women needing prenatal care are experiencing difficulty finding transportation to their appointments.

Factors Differentiating Perceived Barriers

The demographic factors of age and race did not seem to contribute substantially to differentiating Perceived Barriers in the study (refer to Tables 1 and 2). Black women and women of other races had higher percentages of “yes” responses regarding “long waits at the clinic” and “treatment by provider.” The higher percentages of “yes” responses among minority women for both of these barriers were somewhat expected. A first possible explanation is that most of minority women in Michigan are clustered in urban locations, where the clinics tend to be busy and understaffed (MDPH, 1992; Poland et al., 1987). A second tentative explanation is that it was possible that health care providers may not have been culturally sensitive to minority women; furthermore, there may have been language difficulties.

As mentioned earlier, age and racial groups were identified as risk factors for women receiving less than adequate prenatal care. The findings in this study revealed that age and race were *not* factors differentiating the Perceived Barriers. Other studies derived similar results, with other factors such as low-income, insurance coverage, and education mediating the effects of age and race on women receiving less than adequate prenatal care (Cooney, 1985; Lia-Hoagberg, 1990).

The major factor differentiating Perceived Barriers was the type of payment method the respondents had. Women who had Medicaid or MICH-Care as a form of payment method had a higher percentage of “yes” responses for every Perceived Barrier except “treatment by provider” (refer to Table 4). It is possible that women in Michigan who receive Medicaid or MICH-Care as a form of payment method may be more likely to experience difficulties obtaining prenatal care. One possible explanation is the close link women

receiving some form of public medical insurance have to poverty. The issues of poverty are complex and multifactorial, and, therefore, tend to confound the issues of why many of these women find it difficult to obtain prenatal care (Curry, 1989).

The trimester of pregnancy the respondents were at their first attempt to obtain prenatal care was a second major factor differentiating Perceived Barriers (refer to Table 5). For every barrier except “long waits at the clinic,” the percentage of “yes” responses increased with the trimester of pregnancy the respondents were at their first attempt to obtain prenatal care. The differences between group one (less than 3 months pregnant) and group two (3 to 6 months pregnant) was more dramatic: group two answered “yes” at a higher percentage for every Perceived Barrier. A plausible explanation is that the women may have tried some maneuvers first, such as securing a payment method, finding child care, arranging transportation, and so on, and *then* they attempted to call an office to arrange their prenatal care.

Perceived Control of Health and Modifying Factors

The Cognitive-Perceptual Factor of Perceived Control of Health referred to whether or not the woman had planned her pregnancy. Of the 462 respondents who answered the question regarding whether they had planned their pregnancy; 31 percent answered “yes,” they had planned their pregnancy. About 69 percent said “no,” they had not planned their pregnancy. This finding was rather disturbing in view of the several options in existence for family planning that can be customized to best meet the woman’s needs. One possible explanation is that many of the women may not have had access to primary care prior to their pregnancies and, therefore, did not have many available options for birth control. Another possible explanation may be related to the values, religious norms, and cultural beliefs that may discourage the use of modern family planning techniques.

Only about 20 percent of the women who were 20 years old or younger said they had planned their pregnancies. This finding was consistent with other studies (Kinsman & Slap, 1992). Women whose ages were between 21 to 30 had almost twice as many “yes”

ages were greater than 30 had “yes” responses only about five percent less than did those women whose ages were between 21 to 30.

There was a statistical relationship between the respondents’ payment method and if pregnancy was planned. Almost twice as many respondents who had Blue-Cross, other private insurance, or other payment methods had answered “yes” in comparison to those women who had Medicaid or MICH-Care. It is unclear why women who have Medicaid or MICH-Care did not plan their pregnancies in the majority of the cases. Again, the confounding factors of poverty made it difficult to separate the issues.

The trimester of pregnancy at first attempt to obtain prenatal care was also statistically related to whether or not pregnancy was planned. Women who initiated their prenatal care at less than three months gestation had answered “yes” almost twice as much as the women who first attempted to obtain prenatal care when they were three to six months pregnant. There were only 10 respondents in the group of women whose first attempt to obtain prenatal care was at six or more months gestation. However, the percentage of “yes” responses in this group was virtually the same as for the women in group two (3 to 6 months gestation). It is unclear if the women who had not initiated prenatal care until greater than three months gestation were simply unaware they were pregnant. It is reasonable to assume that a woman who has not planned on becoming pregnant may be more likely to be unaware of a pregnancy occurring.

Discussion of Results with the Conceptual Framework

The results of this study did not support the relationships illustrated in the Conceptual Framework adapted from Pender’s (1987) Health Promotion Model. The findings were, for the most part, mixed, and failed to demonstrate statistically significant relationships between the constructs outlined in the Conceptual Framework.

One possible explanation for the non-support of the Conceptual Framework was the inherent difficulties of attempting to retrofit a framework to an existing instrument. Ideally, a conceptual framework is designed first, and then the research instrument is constructed

One possible explanation for the non-support of the Conceptual Framework was the inherent difficulties of attempting to retrofit a framework to an existing instrument. Ideally, a conceptual framework is designed first, and then the research instrument is constructed specifically to test relationships illustrated in the conceptual framework (Polit & Hungler, 1991). Therefore, the likelihood of the data obtained in this secondary analysis supporting a retrofitted framework may have been of low probability.

Another possible explanation may be that the relationships outlined in the Conceptual Framework are not as linear as depicted, but apply only for certain types of outcomes. For example, if factors such as age, or race failed to show many significant relationships with the Cognitive-Perceptual Factors, what facets of being a certain age or race may show relationships within the framework? Also, should those facets be specifically tested with only certain Cognitive-Perceptual Factors based on results of prior research? As mentioned earlier in the literature review, factors such as educational level, marital status, and income level would be defined as Modifying Factors. Cooney (1985) reported that these factors were predictors of women receiving less than adequate prenatal care. A future conceptual framework may depict less linear relationships, and a future instrument would test the framework based on findings such as Cooney's (1985).

Although the findings of this study did not support the relationships illustrated in the Conceptual Framework, there were benefits derived from using the Conceptual Framework. The instrument was not constructed based on a theoretical model. Therefore, the Conceptual Framework provided some conceptual context which was useful for defining the variables, organizing the data, and interpreting the data analysis. The relationships of Modifying Factors indirectly influencing the Cognitive Perceptual factors seemed rational based on previous studies discussed in the literature review.

Future applications of Pender's HPM may place more emphasis on testing relationships within the Cognitive-Perceptual Factors in an attempt to determine what factors motivate women to overcome various Modifying Factors (such as income level) as they attempt to

obtain prenatal care. For example, if one determines how a woman defines her health, perceives her health status, and perceives her self efficacy, the findings may shed some valuable information on what motivates her to seek prenatal care. Therefore, the Conceptual Framework would be somewhat modified to reflect an increased focus on what factors may motivate women, instead of what barriers may have prevented women from obtaining prenatal care. Additionally, the findings indicated that factors such as planning or not planning pregnancy (Perceived Control of Health) may have affected other cognitive perceptions the women had regarding barriers or importance to obtain prenatal care.

Discussion of Data Analysis

Methodological Assumptions and Limitations

It had been assumed the volunteer nurses returned all of the completed surveys they had collected. However, there were no respondents from the Upper Peninsula of Michigan, and only one respondent from the Gaylord area. The resulting distribution was fairly representative of most of the lower peninsula, but it was a detraction from the findings to not have adequate representation from the northern areas of Michigan. It may have been quite interesting to compare frequencies of responses from Upper Peninsula residents simply because that area is the most sparsely populated (MDPH, 1992) and distances to prenatal care may be greater if compared to women who live in the lower peninsula.

Because responses were limited to yes or no answers on question five, statistical analysis was limited to frequencies, proportions, and chi-square analysis. Additionally, accuracy on demographic data was compromised by categorical answers. Support for the Conceptual Framework may have been enhanced if the answers under question five were scaled, making more advanced statistical calculations possible. Also, the findings were compromised by not having numerical values for items such as age. There may have possibly been more significant findings had interval levels of measurements been used when feasible.

The study was limited to those who completed the forms voluntarily and to those who were in a prenatal care service delivery site where a registered nurse had volunteered to collect the data for MNA. Therefore, the subjects were women who had been receiving some form of prenatal care in Michigan, so the generalizability to other settings is not possible.

Additionally, it was possible that the respondents compromised their answers because they were actually in the presence of their health care providers. In particular, those questions related to liking how their health care providers treated them or to finding a doctor that would take their insurance may have posed an ethical dilemma for the respondent.

The wording of the questions in the instrument may have been confusing for some of the respondents. Because the phrasing of question five and its subquestions contained double-negatives, the respondents may have confused a “yes” answer meaning “no,” and visa-versa. For instance, if a respondent did *not* have a hard time getting prenatal care because she had available transportation, the correct response to the subquestion would have been “no.” Therefore, interpretation of the results became difficult because the accuracy of the responses were subject to question.

Difficulties with Interpretation of the Results

The nature of secondary analysis posed conceptual and theoretical difficulties for the researcher. Initial attempts to define the variables conceptually were mediated by the wording of the questions in the survey.

Cross-tabulations that resulted in significant results were somewhat difficult to interpret, because imbalances in the table resulted from the large percentage of the respondents answering “no” to subquestions under part five of the survey. A “no” response actually meant “yes,” they were able to get prenatal care and the question posed was not a barrier for them.

The bivariate nature of the answers under question five prevented an analysis involving statistical testing with more strength. Although many of the significant relationships were reflective of findings in the literature, the author was unable to draw further conclusions other than to say the variables were dependent.

Implications for Advanced Nursing Practice and Primary Care

What strategies might the Family Clinical Nurse Specialist (FCNS) implement to improve clients' perceptions of ability to pay for prenatal care and empower them to find obstetric providers who will accept their insurance? Effective interventions may very well begin with focusing on where women would most likely be present to be positively influenced toward obtaining prenatal care. For example, the FCNS may initiate a resource list for prenatal care services and provide the list to places where women are likely to discover they are pregnant, such as at clinics that provide free pregnancy testing, or at pharmacies that sell pregnancy testing kits.

Based on the findings of this study, there may be advantages gained from educating the public regarding the availability of prenatal care services through usage of nurses in advanced practice. In other words, the FCNS may approach the problem knowing there has been a pervasive perception regarding inability to pay for prenatal services and that most women attempt to call a physician first. It was unclear whether the respondents knew that if the physician did not accept their insurance, they had other options for care.

The FCNS may try contacting the Michigan Department of Social Services for obstetricians and family practitioners who accept Medicaid in FCNS' community. An alternative strategy would be to network with physicians and advanced practice nurses (Certified Nurse-Midwives, Obstetric-Gynecologic Nurse Practitioners) to determine who accepts Medicaid locally. The FCNS can then design a referral sheet for her or his clients to utilize in case pregnancy occurs. Additionally, the FCNS can write consultations or referrals to those practices as indicated for women who become pregnant but otherwise receive their primary care at the FCNS practice site.

Some studies noted that public service campaigns are less costly and more feasible than outreach case finding (McCormick et al., 1989; Olds et al., 1986). More than 50 percent of the respondents in this study had some awareness of the Baby Your Baby Campaign. However, only about six percent of the women called the Baby Your Baby Hotline number. Furthermore, over 60 percent of the respondents said they tried calling a doctor or a clinic first. It was unclear whether the clinics they called utilized nurses in advanced practice. The FCNS can impact public awareness of advanced nursing practice and the resulting increase in available prenatal services as part of the role of educator through judicious use of the media, radio talk shows, and so on.

Although the findings of this study did not indicate large differences in the percentages between age groups (refer to Table 1), it may be appropriate for the FCNS to incorporate age-specific interventions in terms of public service announcements or educational materials. Teenagers may be prone to the effects of peer pressure. Effective strategies toward enticing pregnant teenage women to obtain adequate prenatal care may involve creative tactics with all teenagers within that locale. One strategy may be to incorporate sports figures or musicians known to be popular among the target population into the public service announcements or educational forums that the FCNS organizes.

The FCNS, as an educator, has unlimited opportunities to educate the public about the importance of prenatal care through the use of churches, community meetings, school settings, mass media, and professional contacts. Many references were made to women being unaware of available services and unaware of the importance of prenatal care as reasons for not receiving adequate prenatal care (Burks, 1992; Lia-Hoagberg et al., 1990; Patterson et al., 1990; Poland et al., 1987; St. Clair et al., 1990).

The FCNS is above all, a clinician. It has been discussed by others that the primary care contacts can be a place to begin to influence a woman's perception of her own health (Foster et al., 1992). As this study has implied, and others (Lia-Hoagberg et al., 1990; Sable et al., 1990) have implicated, lack of awareness and not planning for pregnancy were

risk factors for inadequate prenatal care. Discussing with a woman early on what her plans are for pregnancy, and assessing her knowledge of signs of pregnancy, would be a most appropriate intervention starting with females from menarche and continuing throughout the reproductive years.

As discussed in the introduction, prenatal care is effective in preventing low birthweight infants as well as decreasing maternal and infant mortality. Costs of low birthweight infants can be tremendous to society, whereas prenatal care is relatively inexpensive (Institute of Medicine, 1985). This point must be clearly presented by the FCNS when meeting with public forums or communicating to legislators. The perception women have regarding a lack of ability to pay has been well-founded due to the fact Medicaid reimbursement rates have been traditionally low (Machala & Miner, 1991; Nolan, 1990). A key strategy for the FCNS in her or his attempt to influence legislators would be to propose improved reimbursement rates for preventive services such as prenatal care.

Understanding and solving the needs of women in poverty cannot be done in isolation. The FCNS must network within the profession and with colleagues from other disciplines. It may be difficult to keep up with policy changes and findings of current research. The benefits of remaining active in professional organizations cannot be understated, especially when the support may be there to help the FCNS develop creative approaches to the vexing problem of helping impoverished women receive primary health care.

Recommendations for Further Research

The problem of using untested instruments was a weakness of the literature Perez-Woods (1990) found in her meta-analysis of literature regarding barriers to prenatal care. Previously tested instruments should be utilized, as there is much value to replicating studies with different samples. Instrument development is a very complicated task, and should be undertaken only if the resources exist to test validity and reliability.

Future nursing research in Michigan regarding how women decide to obtain prenatal care may again utilize the resources MNA has at its disposal. However, sampling may

benefit from more rigid standards in an attempt to obtain an equitable geographic distribution of the respondents.

As discussed earlier, conceptual clarity was a problem in the literature. This study also suffered from conceptual clarity. It goes without saying that instrument development should be based on a clear conceptual framework, instead of developing or modifying a conceptual framework to fit an instrument (Polit & Hungler, 1991). Instrumentation used in future research may address the issues of poverty more explicitly in an attempt to truly determine what factors differentiate the likelihood of women obtaining prenatal care.

Future research may possibly expand on factors that serve to motivate women to seek prenatal care instead of only addressing barriers to prenatal care. The cross-tabulation tables demonstrated the majority of the respondents answered “no” to each barrier. These findings possibly implied that women who attained prenatal care may have been motivated to such a degree as to overcome any potential barriers.

Finally, outcomes research in advanced nursing practice is in its infancy. However, as new federal mandates become more focused on measuring client outcomes, the FCNS must become actively involved with the research process. Based on the findings of this study, outcomes of pregnant women would include more than the number of prenatal visits they attended or the weight of her infant at birth. Another form of outcome measures is client satisfaction. Researching client satisfaction with current prenatal care services would provide valuable data on what truly matters to pregnant women (Omar & Schiffman, 1993). It may be that priorities of health care providers differ greatly from those of their pregnant recipients. Other outcomes measures may include such items as functional outcomes of the pregnant woman, dietary effectiveness as measured by diet diaries, hemoglobin, and the like.

Outcome measures research conducted by the FCNS in the field of obstetrics should be done in collaboration with Certified Nurse-Midwives, Obstetric/Gynecologic Nurse Practitioners, and Women’s Health Practitioners. The effectiveness of advanced nursing

practice would then be documented in a systematic, coordinated effort in relationship to prenatal care.

APPENDICES

APPENDIX A

Appendix A

Michigan Department of Public Health

Prenatal Care Statistics

Number and Percent of Live Births by Level of Prenatal Care and Race of Mother
Michigan Residents, 1989

Level of Prenatal Care (Kessner Index ¹)	Race of Mother									
	Total		White		Black		All Other		Not Stated	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Adequate	104,985	70.9	86,316	74.9	16,691	55.9	1,625	64.4	353	57.5
Intermediate	28,327	19.1	19,608	17.0	8,042	27.0	588	23.3	89	14.5
Inadequate	10,770	7.3	6,141	5.3	4,295	14.4	229	9.1	105	17.1
Unknown	4,082	2.8	3,121	2.7	811	2.7	83	3.3	67	10.9
Total	148,164	100.0	115,186	100.0	29,839	100.0	2,525	100.0	614	100.0

¹ The Kessner Index is a classification of prenatal care based on the month of pregnancy in which prenatal care began, the number of prenatal visits and the length of pregnancy (i.e., for shorter pregnancies, fewer prenatal visits constitute adequate care.)

Source: Office of the State Registrar and Center for Health Statistics, MDPH

Note. From Michigan Health Statistics, 1989, (p. 125) by Michigan Department of Public Health, 1992, Lansing, MI: Office of the State Registrar and Center for Health Statistics.

APPENDIX B

Appendix B

MDPH Adaptation of the Kessner Index

Defining "adequate" prenatal care has been open to debate, and, unfortunately, various studies use different criteria. Some studies claim seven or less prenatal visits are inadequate (Leatherman, Blackburn, & Davidhizar, 1990; Poland, 1987). Arguably the most popular criteria was developed by Kessner et al. (1973), which combines data on the month prenatal visits began, the weeks gestation at birth, and the number of prenatal visits. The Michigan Department of Public Health (MDPH), adapted Kessner's criteria as follows:

...Adequate prenatal care which began within the first trimester and which included an average of at least one or two additional prenatal visits per month of gestation depending on the length of gestation. Intermediate care is defined as care which began during the second trimester of the pregnancy with correspondingly fewer visits, or which began during the first trimester but a few less visits occurred than would be appropriate for the length of gestation. Finally, care is defined as inadequate when no care was received or if care began during the third trimester. It is also defined as inadequate if care began during the first or second trimester but less than five visits occurred, when the length of gestation was 34 weeks or more. When the length of gestation was less than 34 weeks, care was defined as inadequate when care began during the first or second trimester but a number of visits less than four occurred, that number depending on the actual weeks of gestation. (1989, pp. 123-124)

APPENDIX C

Appendix C

The “Baby Your Baby” Campaign

In response to growing concerns over Michigan's infant mortality rates, and the under utilization of available prenatal services, a large-scale public information program was launched called the "Baby Your Baby" campaign in May, 1990. The program was developed through the MDPH, with Blue Cross and Blue Shield of Michigan, the March of Dimes, the Michigan Association of Broadcasters, the Michigan Cable Television Association, and the Michigan Department of Social Services (Headley, 1991).

The “Baby Your Baby” program was created to familiarize women about the significance of prenatal care and steps they can pursue to have a healthy baby. Public Service Announcements, documentaries, newspaper inserts, billboards, and busboards were the media formats utilized for the campaign. Additionally, a statewide Hotline was implemented (1-800-26-BIRTH), and in Greater Detroit the number was 961-BABY. Women were encouraged to access these numbers if they had questions on how or where to find prenatal services, and if they needed help with obtaining financial assistance (Headley, 1991).

The campaign was officially begun on Mother's Day, 1990. Debbie Dingall, a General Motors Corporation executive, chaired the program with cooperation from Raj Wiener, MDPH Director.

APPENDIX D

Appendix D

Michigan Nurses Association Prenatal Care Survey

DATE: _____

1. Have you heard or seen the "Baby Your Baby ads? _____ Yes _____ No

a. If yes, where?

- b. Did you call the Hotline number (1 - 800 - 26BIRTH), or 961 - BABY in the Greater Detroit area?

_____ Yes _____ No

Please comment on the information you received from the Hotline
(how helpful was it?)

2. Who did you first call about getting prenatal care?

_____ Doctor or clinic	_____ Nurse midwife
_____ Local Health Department	_____ Hotline #1 - 800 - 26BIRTH
_____ Other, please state	(961-BABY in Greater Detroit area)

3. How long were you pregnant before you
- first
- tried to get prenatal care?

_____ Less than 3 months _____ 3 - 6 months _____ More than 6 months

4. How long did you have to wait before you got in to see the doctor or nurse?

_____ less than 1 week	_____ 4 - 6 weeks
_____ 1 - 2 weeks	_____ more than 6 weeks
_____ 3 - 4 weeks	

5. Which things were hard about getting prenatal care?

I didn't know who to call	_____ yes	_____ no
I couldn't pay for it	_____ yes	_____ no
I didn't know how to find a doctor who would take my insurance	_____ yes	_____ no
I didn't know how to find a hospital that would take my insurance	_____ yes	_____ no
I didn't have child care for other children	_____ yes	_____ no
I didn't have transportation	_____ yes	_____ no
There were long waits at the clinic	_____ yes	_____ no
I didn't like how health care providers treated me	_____ yes	_____ no
I had too many other things to do	_____ yes	_____ no

6. What do you think doctors, nurses or hospitals could do to make it easier to get prenatal care?

Appendix D (continued)

Page 2 of the MNA Prenatal Care Survey

The following information tells us more about you. You may leave this out if you want to.

1. Was this a planned pregnancy? ☐ Yes ☐ No
2. What is your zip code? _____
3. What is your age?

☐ Under 15	☐ 31 - 40
☐ 15 - 20	☐ Over 40
☐ 21 - 30	
4. What is your race/ethnic group?

☐ White	☐ Black
☐ Hispanic	☐ Native American
☐ Arab	☐ Asian/Pacific Islander
☐ Other:	
5. How will you/did you pay for your prenatal care and hospital delivery costs?

☐ I have Medicaid or MICH-Care	☐ I have Blue Cross or other private
☐ I do not have insurance	insurance that will cover everything
☐ My insurance will cover some	☐ I do not know how I will pay
costs but not everything	
☐ Other, please state:	

APPENDIX E

Appendix E

The Health Promotion Model

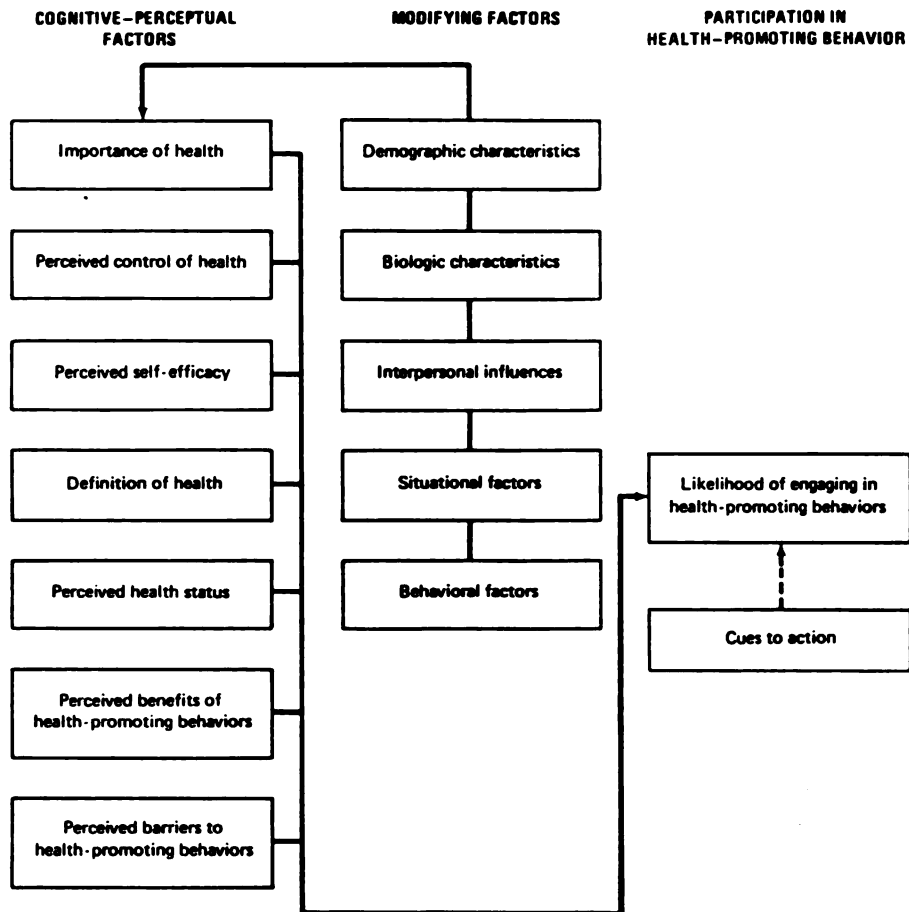


Figure 3-1. Health Promotion Model.

Note. From *Health Promotion in Nursing Practice* (p. 58) by N. J. Pender, 1987, Norwalk, CT: Appleton & Lange. Copyright 1987 by Appleton & Lange.

APPENDIX F

Appendix F

MNA Data Collection Techniques

In February, 1991, a survey was mailed to approximately 1500 registered nurses identified through the Family and Child Health databases. The intent of the survey was to determine the nurse's perceptions of accessibility and system barriers to prenatal care. Additionally, the nurses' awareness of the Baby Your Baby campaign was addressed, and the nurses' opinion of future strategies the MNA could pursue in addressing Michigan's infant mortality rate. The cover letter (Appendix E) to the nurses included a request to review a Client survey (Appendix C), and return their name and address to MNA if they were willing to collect surveys from the nurses' client population. MNA would return the number of surveys requested and envelopes to mail them in. Deadline for returning the nurse questionnaire, and the request for the client surveys, was March 1, 1991.

The overall intent of the Client Prenatal Care Survey was to analyze the effectiveness of the Baby Your Baby campaign in removing some of the barriers, such as lack of awareness of available services, and emphasize the importance of prenatal care (personal communication, Jan Coye, March 22, 1993). The surveys and cover letters to the mothers were sent to the nurses in June, 1991, with instructions to the nurses on how to collect the data (Appendix F).

The nurses were instructed to obtain verbal permission from the client to participate in a voluntary survey written by the MNA in cooperation with the MDPH. Confidentiality was maintained by the omission of names or other identifying items, such as address. Zip codes were utilized for purposes of determining distribution of the sample. A large envelope was given to the nurses to collect the surveys once they were completed.

Participation in the study was strictly voluntary on the part of the nurses distributing the survey, and on the client completing the survey. No attempt was made to control geographical distribution, sample size, or the setting the survey was administered in. A pilot study was not conducted on the survey by the MNA (Kerr, 1991).

Appendix F - continued

MNA Data Collection Techniques

Forty nurses throughout Michigan volunteered to collect the survey over one week of time in their clinical setting. Data collection was limited to one week to prevent possible repeat sampling. Prenatal visits normally do not occur more than one visit per week (personal communication, Jan Coye, March 22, 1993).

According to Jan Coye, Ph.D., RN., from the MNA, (personal communication, March 22, 1993), it was not possible to determine how many surveys were distributed, particularly because some nurses returned more than they were sent. The nurses selected which week they collected the data in. Surveys were returned to the MNA office in July, August, and September, 1991.

The mothers who volunteered to participated were thanked in the cover letter which accompanied the survey (Appendix G). The importance of the survey was emphasized, and confidentiality was assured to the participants in the form of the information being "secret."

APPENDIX G

Appendix G

Cover Letter to Michigan Nurses for Prenatal Care Survey**SAMPLE**

Dear Colleague:

The enclosed survey is intended for Registered Nurses who practice in an area of nursing where they regularly provide care or supervise students or staff who provide care for prenatal, perinatal or postnatal clients. If you do not provide these services, please forward this survey to an RN who does. Also, feel free to duplicate this survey for RN colleagues.

In May 1990, the Michigan Department of Public Health (MDPH) launched a public information campaign, titled "Baby your Baby," designed to inform women about the importance of prenatal care and steps they can take to have healthy babies. The campaign makes use of the media to instruct pregnant women about the importance of prenatal care and sources of this care, along with financial assistance information. However, there is much concern that medical care will not be available to all pregnant women.

The 1990 Michigan Nurses Association House of Delegates adopted a resolution to make the issue of infant mortality and access to prenatal care an organizational goal for 1990-1991. To address this goal, the MNA Family and Child Health Nursing Practice Section is collaborating with the MDPH to assist in determining the outcome of the "Baby Your Baby" initiative on consumers' pursuit of prenatal care.

To assist us, we ask that you:

1. Respond to the enclosed survey for RNs. This anonymous survey is intended to collect data concerning perceptions of RNs about the effectiveness of the Baby your Baby campaign and barriers to prenatal care in the RN's geographic area.
2. Return the completed survey in the enclosed self addressed stamped envelope by MARCH 1, 1991.
3. Review the sample client survey form, designed to collect data directly from clients concerning barriers to care. This information is needed to assist MNA, public and private agencies in making access to care policy decisions and in promoting political action to reduce infant mortality. If you are willing to collect this important data during one week in 1991, please write your name, address and the number of forms you expect to use on a separate sheet and return with the RN survey. Blank forms and a return envelope will be forwarded to you.

Even if you cannot collect data directly from clients, please complete and return the RN survey.

Thank you for your assistance in this process.

Sincerely,

Karen Kerr, RN
Chairperson
Family and Child Health Nursing Practice Section

APPENDIX H

Appendix H**Instructions to Volunteer Nurses for Data Collection**

Dear (name),

In March of this year you completed a Michigan Nurses Association Family and Child Health Nursing Practice Section survey concerning access to prenatal care and the Michigan Department of Public Health Baby Your Baby Campaign. Thank you for completing the survey and also for volunteering to collect data from clients concerning barriers to prenatal care.

Enclosed is the quantity of forms that you indicated you would need to collect information from clients. Please collect data for a one week period between July 15 and August 31. To ensure that clients respond to only one survey, they should be asked if they have already completed the survey.

Use the enclosed postpaid envelope to return the completed forms by September 1, 1991.

Thank you for your assistance in collecting this data. A summary of the information collected will be published in a future issue of the Michigan Nurse.

Sincerely,

Karen Kerr, Chairperson
Family and Child Health Nursing Practice Section

APPENDIX I

Appendix I

Cover Letter to Mothers for Prenatal Care Survey

SAMPLE

Dear Mother:

As nurses, we are very concerned about pregnant women being able to get prenatal care (pregnancy-related health care). The Michigan Nurses Association is working with the Michigan Department of Public Health to survey new mothers in Michigan about the prenatal care they received.

You are the most important source of information about prenatal care. Your answers to the questions on the attached survey can help state and local public health officials make prenatal care easier to get.

We would like you to complete this survey. Please do not put your name on the survey, as all answers are confidential (secret). Although you do not have to answer these questions, the more information we get, the better public health officials can make prenatal care to fit mothers' needs.

Thank you very much for your help.

Sincerely,

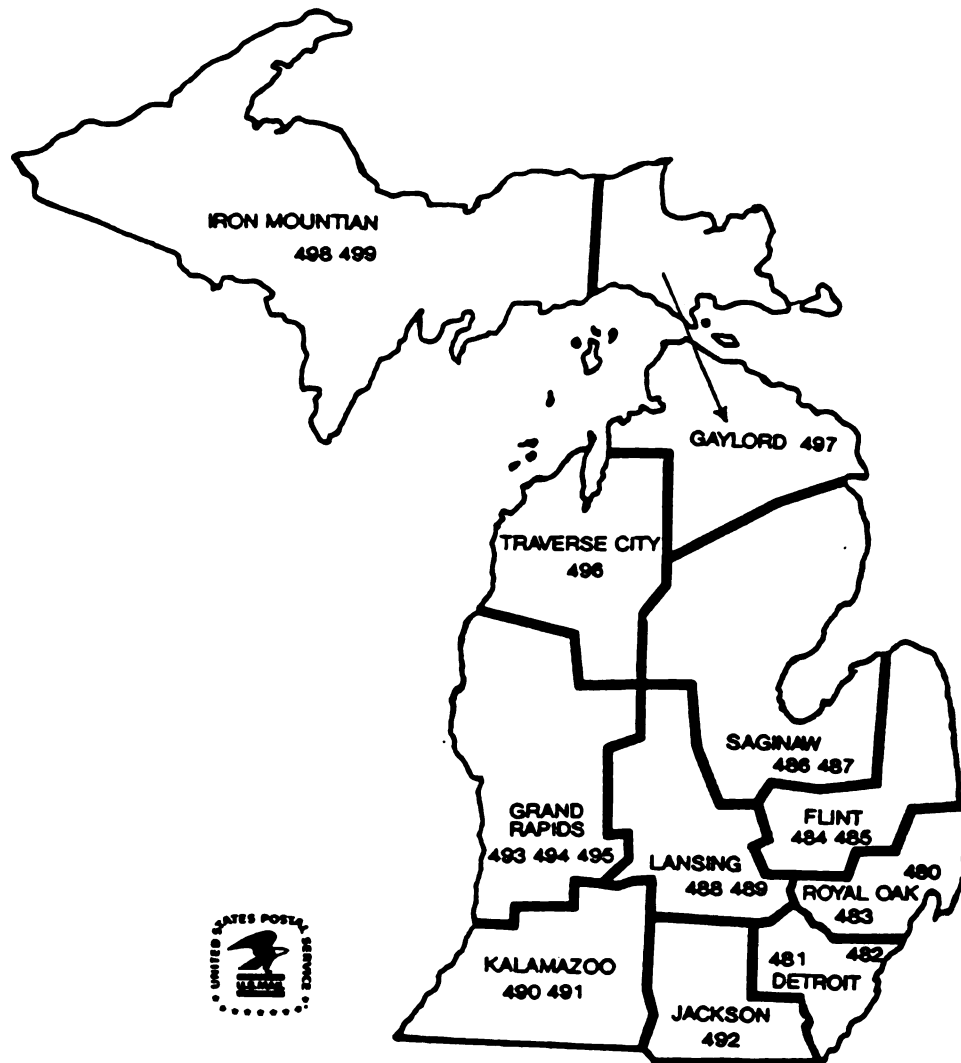
Karen Kerr, RN
Chairperson
Family and Child Health Nursing Practice Section
Michigan Nurses Association

Att.

KK/es

APPENDIX J

Appendix J

Divisions of Michigan by Zip Code for Analysis**Divisions by Zip Code for Data Analysis**

- Area 1: Iron Mountain, Gaylord
Area 2: Traverse City, Grand Rapids, and Kalamazoo
Area 3: Saginaw, Lansing, and Jackson
Area 4: Flint, Royal Oak
Area 5: Detroit
Source: United States Postal Service

APPENDIX K

Appendix K

**Copy of University Committee on Research Involving
Human Subjects Approval Letter**

**MICHIGAN STATE
UNIVERSITY**

July 12, 1993

TO: Catherine McDonald
29491 Craw Drive
Chesterfield, MI 48047-4750

RE: IRB #: 93-307
TITLE: FACTORS AFFECTING WOMEN'S DECISION TO OBTAIN
PRENATAL CARE IN MICHIGAN
CATEGORY: 1-E
REVISION REQUESTED: N/A
APPROVAL DATE: July 11, 1993

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

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

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



**OFFICE OF
RESEARCH
AND
GRADUATE
STUDIES**

**University Committee on
Research Involving
Human Subjects
(UCRIHS)**

Michigan State University
225 Administration Building
East Lansing, Michigan
48824-1048
517/355-2180
FAX 517/336-1171

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

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

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

Sincerely,

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

DEW:pjm

cc: Dr. Mildred Omar

APPENDIX L

Appendix L

Frequency Table of Uncollapsed Data

Question	<i>N</i>	Variable	Frequency		Percent	
			Yes	No	Yes	No
1.a.	473	Aware of Baby Your Baby	241	232	50.95	49.05
1.b.	470	Call the Hotline Number	38	442	5.96	94.04
2.	467	Who did she call first:				
		Doctor/clinic	285		61.03	
		Nurse Midwife	3		0.64	
		Health Department	135		28.91	
		Hotline	19		4.07	
		Other	25		5.35	
3.	476	Trimester at first attempt to obtain prenatal care:				
		Less than 3 months pregnant	336		70.59	
		3 to 6 months pregnant	130		27.31	
		Greater than 6 months pregnant	10		2.10	
4.	476	Wait for prenatal visit:				
		Less than 1 week	79		16.60	
		1 to 2 weeks	138		28.99	
		3 to 4 weeks	151		31.72	
		4 to 6 weeks	65		13.66	
		Greater than 6 weeks	43		9.03	

Appendix L - continued

Frequency Table of Uncollapsed Data

Question	N	Variable	Frequency		Percent	
			Yes	No	Yes	No
5.a.	445	Didn't know who to call	104	341	23.37	76.63
5.b.	448	Couldn't pay for it	185	265	41.29	48.71
5.c.	448	Couldn't find a doctor	150	298	33.48	66.52
5.d.	435	Couldn't find a hospital	76	359	17.47	82.53
5.e.	432	Didn't have child care	52	380	12.04	87.96
5.f.	443	Didn't have transportation	108	335	24.38	75.62
5.g.	434	Long waits at the clinic	119	315	27.42	72.58
5.h.	428	Didn't like how provider treated her	39	389	9.11	90.89
5.i.	433	Had too many other things to do	25	408	5.77	94.23
<u>Demographics Optional Section</u>						
1.	462	Pregnancy was planned	145	317	31.39	68.61
2.	464	Location of home by zip code:				
		Iron Mt./Gaylord	1		0.22	
		Grand Rapids/Traverse City/Kalamazoo	129		27.80	
		Saginaw/Lansing/Jackson	138		29.74	
		Flint/Royal Oak	51		10.99	
		Metropolitan Detroit	145		31.25	

Appendix L

Frequency Table of Uncollapsed Data

Question	N	Variable	Frequency		Percent	
			Yes	No	Yes	No
3.	471	Age Group:				
		Less than 15	7		1.49	
		15 to 20	143		30.36	
		21 to 30	265		56.26	
		31 to 40	55		11.68	
		Greater than 40	1		0.21	
4.	470	Racial/Ethnic group:				
		White	342		72.77	
		Black	96		20.43	
		Hispanic	11		2.34	
		Native American	5		1.06	
		Arabic	6		1.28	
		Asian/Pacific Islander	6		1.28	
		Other:	4		0.85	
5.	466	Payment Method:				
		Medicaid/MICH-Care	352		75.54	
		Blue-Cross/other private insurance	49		10.52	
		Do not have insurance	20		4.29	
		Don't know how will pay	10		2.15	
		Insurance will cover some but not all	31		6.65	
		Other	4		0.86	

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