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Perceived Barriers and Perceived Motivators to Receiving Prenatal Care

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PERCEIVED BARRIERS AND PERCEIVED MOTIVATORS TO RECEIVING PRENATAL CARE

By

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ABSTRACT

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The Health Belief Model served as the conceptual framework for this retrospective descriptive study that identified women's perceived barriers and perceived motivators to obtaining prenatal care. A 50 item questionnaire, including both forced-choice and open-ended questions, was administered to 29 women who had delivered a healthy infant within the previous 6 to 8 weeks. The sample was predominantly white (82.2%), >19 years of age (62.1%), single (62.1%), unemployed (51.7%), and receiving Medicaid insurance (69%). Univariate statistics were calculated for each item. Each item was then compared to the timing of the start of prenatal care. The most important motivators for receiving prenatal care were a belief that prenatal care would help women have a healthy baby (86%), family and friends stating the importance of prenatal care (79%), having a health professional available for reassurance (71%), and being afraid something would go wrong if care was not obtained (65%). The most important barrier for a majority of the sample to receiving prenatal care was having to wait a long time in the office or clinic.

DEDICATION

This work is dedicated to those who mean the most to me--my family. First to my husband, Murd, who always said there was a "light at the end of the tunnel" when I was sure no tunnel existed. Secondly to my children, Gabe, Adrienne, Jacob and Rachel, who gave the most of all when I wasn't there to hold their hands or read the stories, they understood and love me still. This is for you with love and admiration.

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CHAPTER 1

INTRODUCTION

The incidence of low birth weight (LBW) and very low birth weight (VLBW) infants and the resultant infant mortality rate (IMR) continue to be a concern for health professionals in the United States (Curry, 1990; Goldenberg, Patterson, & Freese, 1992; Higgins, Murray, & Williams, 1994; Kozlowski & Zotti, 1994). Seventeen industrialized countries have a lower infant mortality rate than the United States' rate of 8.0 deaths per 1,000 births (Baldwin & Chen, 1996). While advances in technology have increased the chances for survival and lowered the IMR over the last ten years (Kirby, 1996), the incidence of LBW and VLBW infants remains an enigma. In an attempt to understand this situation, a myriad of studies have been undertaken. Likewise, numerous programs have been instituted in an attempt to deal with this phenomenon. Unfortunately, these efforts have produced few positive results.

Many variables affect the healthy outcome of a pregnancy. These variables can occur at any time during the life-cycle of a woman or her fetus/infant. Among the

variables that may predispose a woman or her infant to less than ideal results are genetic, environmental, demographic, financial, psychological, and sociocultural factors.

One strategy that has been identified for dealing with this broad spectrum of variables is increasing participation in prenatal care. Since early and continuous prenatal care has been associated with improved birth outcomes (Aved, Irwin, Cummings, & Findeisen, 1993; Burks, 1992; Driscoll et al., 1990; Goldenberg, Patterson, & Freese, 1992; Higgins, Murry, & Williams, 1994; McClanahan, 1992), enrolling women in prenatal health care programs has become a national priority. The United States Surgeon General had set a national goal for at least 90% of pregnant women to be enrolled in prenatal care in the first trimester of their pregnancy by the year 1990 (U.S. Department of Health, Education, & Welfare, 1979). Unfortunately, this goal was unrealized. Recent indicators suggest even an upward turn in low birth weight and very low birth weight infants (Scupholme, Robertson, & Kamons, 1991). Furthermore, it is estimated that between one-third and one-fourth of all pregnant women in the United States do not obtain early and continuous prenatal care (Institute of Medicine, 1988; Maloni, Cheung, Liebl, & Maier, 1996)).

Research has revealed scores of reasons why women delay seeking prenatal care. This list is as extensive as the one generated listing variables that effect healthy pregnancy outcomes. Regardless of the reasons, no one, adequate explanation exists for late or no entry into a prenatal health care system. Human behavior is complex and usually unpredictable. Providers of prenatal care however, must attempt to understand this complexity as it relates to the health beliefs and perceived barriers that women associate with prenatal care. By doing so, the likelihood of participation in care will increase and thereby affect the incidence of low birth weight infants and the infant mortality rate.

Therefore, building on research conducted by Tiedji, Kingry and Stommel in 1992, using the Health Belief Model as a guiding framework, and partially replicating a research study by Lia-Hoagberg et al. (1990), the purpose of this study is to identify the perceived barriers and motivators, that women relate to obtaining prenatal care. Once identified these beliefs can be incorporated into prenatal care delivery systems, thereby increasing the likelihood that women will enroll early in the system and continue with care throughout the duration of the pregnancy.

CHAPTER 2

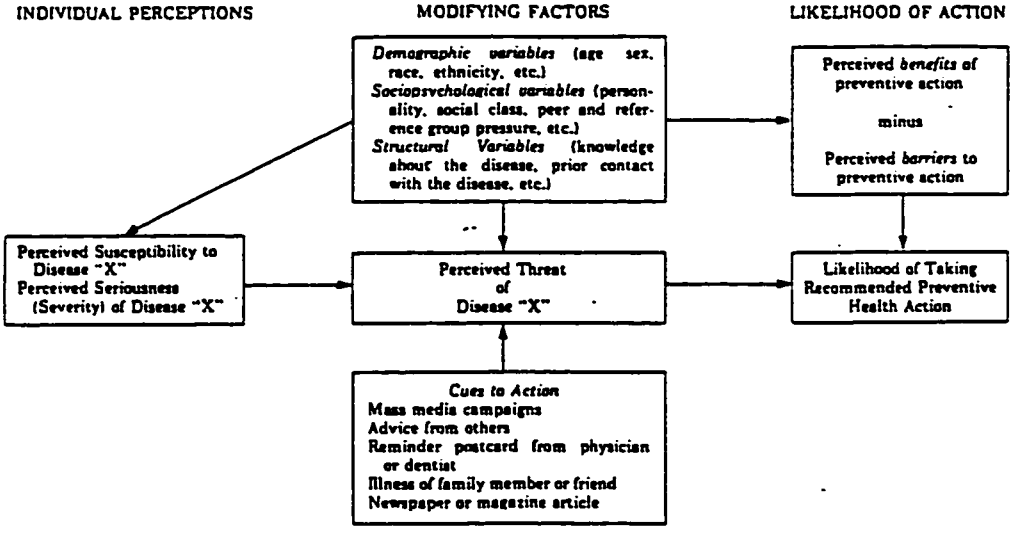
CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

The Health Belief Model

The Health Belief Model (HBM) served as the guiding framework for this study (see Figure 1). The model was originally developed to help explain problems encountered by the Public Health Service in the 1950's. There was extensive evidence to suggest that people were not participating in disease preventative measures or screening tests for asymptomatic illnesses. At the time, these measures were aimed at preventing tuberculosis and dental disease and at increasing participation in flu immunization programs. Later, the aim was early detection of cervical cancer and rheumatic fever and greater participation in polio immunization clinics (Rosenstock, 1974). Interestingly, these preventative measures, screening tests, and immunization programs were offered to the public at subsidized cost or free of charge.

Since it was originally developed, the HBM has been widely used to explain an extensive range of health behaviors including screening programs (Tay-Sachs disease,

Figure 1. The Health Belief Model



Rosenstock, I. (1974). Historical Origins of the Health Belief Model. Health Education Monographs, 2(4), 328-335.

blood pressure) and nonparticipation in self-help practices (breast-self examination, medication regimes, and smoking, drinking, and overeating behaviors) (Janz and Becker, 1984). More recently the model has been used to explain adolescent contraceptive behavior (Herold, 1983), attitudes relating to health behaviors during pregnancy (Tiedje, et al. 1992), breast-self examination (Champion, 1985, 1987, 1993), and beliefs about osteoporosis (Kim, 1991).

As originally conceived, the HBM theorized that persons will generally not seek preventive care unless they possess minimal levels of relevant health motivation and knowledge. Furthermore, individuals will not participate in preventative health care programs unless they view themselves as potentially vulnerable and the threat of the problem as serious. Participation also depends on perceiving few difficulties in the undertaking and the existence of definite benefits to participation in the programs. These qualifying factors are referred to as perceived susceptibility, seriousness, barriers, and benefits (Becker et al., 1977).

Another dimension of the model was labeled <u>cues-to-action</u>. These were considered as stimuli that could trigger appropriate health behavior. Modifying factors that affected a given health behavior included demographic variables and sociopsycholoigcal barriers.

Motivation, while not considered in the original HBM, was added to the model to further explain individuals' participation or lack of participation in health behaviors (Rosenstock, Strecher, and Becker, 1988). It was not considered in the original version of the model because it was assumed that perceived susceptibility to a disease and the severity of a disease would in themselves be motivating enough to engage in positive health behaviors.

The HBM major constructs of susceptibility, seriousness, and benefits will be defined in a conventional manner. According to Rosenstock (1974), susceptibility is an individual's belief that s/he is personally susceptible to a disease process. Seriousness, also called severity, is an individual's belief that s/he will experience at least a moderate alteration in some part of the life style as a result of the disease or health problem. Benefits are the perceived outcomes related to reducing the susceptibility or severity of the disease or health problem, that result from taking a certain course of action.

The construct of barriers will be defined more specifically as it pertains to the current study. These are those perceived factors which are associated with delays in starting prenatal care or with infrequent care use.

Motivators will also be defined in context of the present study as those factors which encourage pregnant women to obtain and continue to obtain prenatal care.

Literature Review

There are abundant examples in the literature of research studies addressing the factors that influence prenatal care. The Health Belief Model (HBM) has been used extensively to explain and/or predict an individual's likelihood of engaging in preventative health behaviors. While several studies have utilized the HBM as the guiding framework for determining health belief behaviors that predict inadequate prenatal care, many other studies have alluded to the model by using the model's terminology (perceived susceptibility, seriousness, benefits, and barriers) without formally defining the model's constructs or giving credit to the model as a basis for the research. This literature review will address both types of studies.

Early research attempting to identify factors that affect the early and continuous use of prenatal care focused on demographic factors. Cooney (1985) conducted an enormous study to establish such factors in 1981. She analyzed 85,071 or 78% of the live births that occurred in New York city in 1981. Data was obtained from the live-birth files. These files contained information on age, marital status,

education race/ethnicity, financial coverage, and start of prenatal care.

This study revealed that race, age and marital status of a woman affects her education, which in turn may affect her attitude toward health care. Education also affects the level of employment which can be related to health benefits such as health insurance. Cooney concluded that the chief predictors of inadequate prenatal care were low education and Medicaid coverage.

This study also identified groups that differed from the rest. Older, multiparous women and unwed white and Hispanic teenagers were groups that needed further assessment.

Demographic factors indicative of inadequate prenatal care were further studied by Poland, Ager, and Olsen in 1987. One hundred and eleven women were interviewed with open-ended and fixed choice questions. When these women were grouped according to the level of prenatal care they had received, no significant differences were found in age, race, marital status, or the number of prenatal providers that been consulted during the pregnancy. This finding may be skewed, as the authors suggest, by the homogeneity of the population. Significant factors that correlated with decreased prenatal care were parity (increased parity

correlated with decreased care) and antenatal risk scores (increased risk correlated with decreased level of care).

Also, six sociocultural factors were identified as key ingredients to the amount of prenatal care received. These were amount of insurance, attitude toward health professionals, delay in suspecting pregnancy, delay in telling others about the pregnancy, perception of the importance of prenatal care, and initial attitudes about the pregnancy.

This study also added the dimension of social support to the equation of inadequate prenatal care. (It should be noted that social support was not actually defined.) When the levels of care were dichotomized into intermediate/adequate care and inadequate/no care groups, there were significant differences in the perceived emotional support and tangible assistance offered during pregnancy between the groups.

Further identification of demographic factors was addressed in 1989 by Young, McMahon, Bowman, and Thompson. This study described self-reported reasons for delayed prenatal care by 201 women. An interview using a questionnaire with both fixed-choice and open-ended questions was administered by a public health nurse in the subject's home. Demographic factors that were common to this

questions was administered by a public health nurse in the subject's home. Demographic factors that were common to this group of late prenatal care seekers were less than a high school education (48%), member of a minority group (66%), unmarried (90%), and unemployed (90%).

The study also showed that this group of women was likely to exhibit more high-risk behaviors described as smoking, closely spaced pregnancies, other children less than two years old, and self-reported low weight gain.

In addition, psychosocial problems related to delayed prenatal care were identified. Attempts to conceal the pregnancy, scheduling and keeping appointments, childcare, psychological stress, conflicts with job and other family members, and financial problems were offered as reasons for inadequate prenatal care. Young et al. (1989) assert that social support (again, not defined), was notably lacking for the majority of the women in this study.

Poland (1989) expanded her 1987 study of demographic data to analyze sociocultural differences, beliefs about what constituted a risk, and beliefs about the value of prenatal care. The inadequate/poor prenatal care women were older, had more children, were at high risk for complications, experienced shorter pregnancies, and produced smaller babies. These women expressed less interest in the

friends and health professionals. Additionally, almost one-half of the inadequate care group received some or all of their prenatal care in an emergency room. In general these women valued prenatal care less than the intermediate/adequate care group and had more negative attitudes toward doctors.

In 1990, Curry undertook a literature review and categorized a plenitude of studies as to how they identified factors that were associated with inadequate prenatal care. Studies were classified in three focal categories: sociodemographic barriers (income, race/ethnic origin, education level, age, marital status, parity, and geographic location), personal barriers (attitudes and knowledge, culture and lifestyle, personality characteristics and social support), and system barriers (provider availability, transportation, institutional practices, and dissatisfaction with prenatal care and care providers).

After analyzing the research studies, Curry further identified nine factors that were highly predictive of failure to obtain prenatal care. Five of these barriers were sociographic: poverty, unmarried, age of less than twenty years, education less than twelfth grade, and high parity. Two personal barriers were: unintended pregnancy and perceived low value of prenatal care. The remaining two

factors were system barriers, exemplified by negative attitude toward health care providers and a fragile connection to health care.

Scupholme, Robertson, and Kamons (1991) studied 227 women who received inadequate care in Miami, Florida. These researchers also categorized barriers to care under three areas: demographic, system, and financial. This study population had the added dimension of being multilingual. English, Spanish, and Creole, were spoken in the area.

Analysis of the data showed that women who were single, low income, multiparous and had less than a twelfth grade education, were less likely to receive adequate prenatal care. Age was not a factor in this study. Interestingly, women who were born outside the Untied States, obtained prenatal care more easily than those born in the United States. Furthermore, those women considered to have easy access to prenatal care (a clinic located within their zip code area), were actually less likely to receive adequate prenatal care than those women with a more difficult access to care.

Scupholme et al. further found that while most women from the various studied ethnic groups believed prenatal care was important, African American females had the least adequate prenatal care. Also, white and African American

women had greater difficulty in accessing prenatal care than women originating from Cuba, Haiti, or the Caribbean islands.

Inadequate finances had been identified, by the aforementioned studies and many others, as a major factor in inadequate prenatal care. Therefore, Medicaid eligibility was changed in 1990. This expanded eligibility qualified recipients for tax supported prenatal care. However, according to Piper, Ray, and Griffin (1990),this expanded coverage did not necessarily translate into increased use of prenatal care.

Realizing that Medicaid funding of prenatal care does not inherently increase enrollment in care, Reis, Mills-Thomas, Robinson, and Anderson (1992), sampled an entire community's perceptions and expectations on the barriers to prenatal care. This sample of 380 low-income, inner city, black adults (231 females and 149 males) was interviewed with respect to their understanding of infant mortality and perceived barriers to and importance of prenatal care. This particular community also exhibited documented high risk health behaviors of "gang" activity and illegal drug traffic. This environment resulted in an infant mortality rate of 31.4%, 35% of births were to adolescents, and 17% of all live newborns weighed 2500 grams or less.

The methodology for this study incorporated a seventy item questionnaire that was read to each subject. Eleven potential barriers to prenatal care were identified. These were categorized into three groups based upon what the respondent perceived as a recommended number of prenatal visits. Maternal fear of detection of drug use was the most significant barrier (88%) in all three categories. Other barriers that were important for inadequate prenatal care were decreased family support, problems with childcare, cost of the care, fear and embarrassment of medical procedures, inconvenient clinic hours, and transportation problems.

In 1993, another dimension was added to the puzzle of inadequate prenatal care with a research study conducted by Aved, Irwin, Cummings, and Findeisen. Not only did these researchers interview women as to their reasons for inadequate prenatal care, but a physicians' group was also queried as to their beliefs about why women received inadequate care. Ninety-five percent of the women in this particular study had a self-stated awareness of the importance of attaining prenatal care, but fully 62% did not receive that care. The primary barrier to receiving care cited by these predominantly poor women was finding a physician who would accept them, or would not discontinue their care because of a "noncompliant" or different life-

style. These women also reported the common barriers cited in other studies: lack of transportation and childcare, finances, family problems, ambivalence about pregnancy, inconvenient clinic hours and long waits during the visit.

Physicians' perceptions as to why these women lacked prenatal care was interesting. The most often cited reason for refusing to see low-income women, was the cumbersome payment process and the low level of reimbursement for services by Medicaid. Additionally, the women addressed in this study, who were low-income and/or "no physician of record" when entering the hospital, were perceived as requiring more resources, in terms of time expenditure, relationship establishment, and difficulty finding them additional health care referrals. The physicians' group also perceived these women to have a low regard for prenatal care. This is in sharp contrast to the subjects self-declared belief in the significnace of obtaining prenatal care.

As mentioned in the review of a previous study, removing financial barriers to prenatal care is no guarantee of increasing the use of care. In 1993, Harvey and Faber studied a rural Oregon county to assess the obstacles to prenatal care. Keeping in mind the expanded eligibility of Medicaid, financial barriers were still cited by 76% of the

236 women who received inadequate prenatal care. Furthermore, 55% cited difficulty with medical insurance. Another 46% experienced ambivalence or fear with the pregnancy, and transportation barriers were listed by 42% of the sample.

York, Williams, and Munro (1993) added further evidence to the idea that removing financial barriers will not automatically increase the use of prenatal services. Fifty-seven women cited 22 reasons that were barriers to prenatal care. Although financial barriers were removed and travel vouchers supplied to the target population, 20% of the women who delivered infants at the study's hospital received inadequate prenatal care. These women reported that the primary barriers to prenatal care included lack of insurance, family support, childcare, and an unsympathetic or non-supportive clinic environment. Additionally, feelings of ambivalence about the pregnancy and less than a high school education were associated with inadequate prenatal care.

Two studies were reviewed that employed a specific framework to guide research concerned with inadequate prenatal care. The HBM was used as the conceptual framework for the study conducted by Leatherman, Blackburn, and Davidhizar (1990). A questionnaire covered the models

constructs, perceived susceptibility, seriousness, threat, benefits, barriers and cues to action, as they related to inadequate prenatal care. The 44 women surveyed were from a wealthy, predominantly white midwestern county with a large transient population. This particular county did not offer any type of public assisted prenatal care.

Analysis of the data revealed that 81% of the women cited insufficient funds as a barrier to care. Motivational barriers were cited by 45% of the subjects ("I did not feel prenatal care was necessary", "I had no problems with previous pregnancies", "I felt good so did not need to come in early"). Additionally, 19% of the women said that access to care (transportation, clinic hours, long waits at the office) was a major barrier. The authors concluded that there was a need for subsidized prenatal care. Another community need identified was the establishment of a community-wide educational campaign that stressed the need for prenatal care and the consequences of receiving inadequate care.

The HBM was again used in 1992 (Tiedje, Kingry and Stommel) as a basis to develop a questionnaire that would assess women's health beliefs during pregnancy. The specific behaviors that were addressed were inadequate prenatal care, poor nutrition, smoking and moderate to heavy alcohol use. A

heterogenous convenience sample of 127 women was drawn from either a county health department (85 women) or expectant parent classes (42 women).

Through a variety of statistical approaches, the authors developed a questionnaire consisting of 64 items addressing the major constructs of the HBM. Three of the constructs, susceptibility/seriousness, benefits and barriers, were identified as significant for inadequate prenatal care, nutrition and alcohol use. However, only two constructs, susceptibility/seriousness/benefits and barriers were delineated for smoking behavior.

This study raised several questions that need further study. First, since susceptibility and seriousness were not conceptually different across the four behaviors (smoking, drinking, poor nutrition, and inadequate prenatal care), there is no point in addressing these constructs separately. Second, when designing an intervention plan, the nature of the behavior being addressed needs to be considered. The benefits of adding healthy behaviors, such as increasing prenatal care and improving nutrition, may be perceived differently by the target population than the benefits of eliminating an entrenched addictive behavior such as smoking. Finally, perceived barriers were clearly independent of susceptibility/seriousness or benefits across

the behaviors. This implies that a discussion of barriers is essential in program planning. The barriers may be in the system itself or in the individual. Additionally, the study suggests that because barriers to enrolling in prenatal care were so distinct, and benefits distinct for only prenatal care, nutrition, and drinking, then those prenatal care programs that disregard these issues, giving out only general information on healthy pregnancies, will continue to fail.

To further investigate perceived barriers and motivators to prenatal care, Lia-Hoagberg et al.(1990) sampled 211 low-income women from three ethnic groups (white, black and American Indian), that received varying amounts of prenatal care. Perceived barriers and motivators were not defined in terms of the HBM. Subjects were interviewed following the delivery of a live infant. The questionnaire addressed sociodemographic data, reproductive history, and structural care use.

One of the results of this study reinforced conclusions of prior studies that certain sociodemographic factors (i.e. poverty level, age, marital status, educational level and parity) are landmark barriers to receiving adequate prenatal care. In contrast to many other studies, however, when considering structural factors that pose barriers to care,

paying for prenatal care did not emerge as significant. In fact, only fifteen women in the entire study cited financial matters as barriers to care. In accord with other studies, having no financial concerns regarding payment of care did not assure that women would obtain early and regular prenatal care. Other structural barriers to care included no childcare (28%) and problems with transportation (32%), including the inability to afford cost of transportation.

The individual/psychosocial barriers to adequate prenatal care were: unplanned pregnancy, delayed confirmation of pregnancy, and emotional response to the pregnancy (ambivalence, sadness, abortion consideration). Two other factors in this category that women cited as barriers were personal and family problems (sick children, problems with boyfriends/husbands, and feelings of depression). The authors concluded that the greater the feelings of depression and the higher the incidence of personal and family problems, the more inadequate the prenatal care.

Almost all of the women in this study indicated that prenatal care was important but that this did not necessarily translate into action of obtaining early and regular care. Differences in health care beliefs and negative feelings regarding medical procedures and health

care providers were also cited as barriers to prenatal care.

When the study examined motivators to prenatal care, the strongest factor was a belief that prenatal care would ensure a healthy baby. Additionally, 69% of the women reported that someone encouraged them to seek care, but the source of this encouragement was divided along the three ethnic lines. White women, who were more likely to be married, indicated they received encouragement from a significant male in their lives (43%), while only 23% of the black women and 35% of the American Indian women indicated the same type of support. Black women more frequently reported (46%) that no one encouraged them to seek prenatal care in contrast to 25% of white women and 22% of American Indian women.

An interesting addition to these motivational factors, was that only 45% of the women said they received advice on how to take care of themselves during the pregnancy. This advice centered on the health of the pregnant women themselves (i.e. getting rest and relaxation, eating well, not smoking or drinking, and obtaining prenatal care). Overwhelmingly, 56% of the self care advice, was obtained from the mothers of the pregnant women. Mothers of the pregnant women, were more frequently the advice-givers for

black women; males (husbands or boyfriends) were identified significantly more by white women.

This study suggests that multiple barriers to prenatal care remain, even after financial barriers are reduced. Lack of a support system may be such an additional barrier to receiving prenatal care. Furthermore, Lia-Hoagberg et al. suggest that it is critical to emphasize prenatal care for the health of the mother as well as the fetus. When the pregnant woman's needs and concerns are met, she will be more likely to focus on the needs of her infant.

SUMMARY

After this literature review, a trend in identifying factors that influence prenatal care emerged. Early studies identified those factors of a demographic nature. These factors include, but are not limited to, age, parity, educational level, marital status and poverty level. The next era of research focused on system and structural barriers to prenatal care. Factors such as inability to find a care provider, clinic hours and long waits, and, transportation and childcare obstacles were identified. As the health care delivery system attempted to resolve these issues, research turned to identifying personal and motivational barriers associated with inadequate prenatal care. Decreased support, feelings of ambivalence regarding

the pregnancy, fear of medical procedures and criticism of life style, and low value attached to prenatal care have begun to emerge as barriers to prenatal care.

Since the HBM has influenced research relating to many health care preventative behaviors and screening programs, it would seem an ideal framework to help explain the lack of prenatal care among certain groups of pregnant women. As cited earlier in the literature review, susceptibility and seriousness were not found to be discrete constructs for health behaviors in pregnancy (Tiedje et al, 1992). Furthermore, while the barriers to prenatal care was clearly an independent construct, it was multidimensional. Therefore, barriers to prenatal care need further exploration.

Using the HBM as a conceptual framework, the purpose of this project was identifying barriers that exist for obtaining adequate prenatal care. Motivators for such behavior were also explored. To this end, a partial replication of the study conducted by Lia-Hoagberg et al. (1990) was undertaken.

Research Question

The research question was: What are the perceived barriers and motivators to participation in a prenatal care program?

Definition of Terms

For the purpose of this study the Health Belief Model constructs of barriers and motivators were defined more specifically.

Barriers: Barriers are those perceived factors which were associated with delays in starting prenatal care or with infrequent care use.

Motivators: Motivators were defined as those perceived factors which encouraged pregnant women to obtain early and continuous prenatal care.

CHAPTER 3

METHODOLOGY

Design

This retrospective study was descriptive in nature. Subjects who had delivered live infants within the previous four to six weeks were asked to recall and describe experiences and situations related to their prenatal care. This type of design has no control over the variables and merely suggests what events in the past may be related to an observed phenomenon in the present (Polit & Hungler, 1991). While direct cause-and-effect relationships cannot be established with this type of design, data can be gathered that will add to the prenatal care body of knowledge that will provide a direction for more rigorous research.

There were several threats to the internal validity of this project. One such threat had to do with the design itself. Prenatal care motivators and barriers may not have been accurately recalled by the subject in light of a seemingly healthy infant outcome. Environmental influences might also have threatened the credence of the results. Presence of significant others, commotion in the waiting

area, interruptions by health professionals and child care demands were possible interferences with the survey process.

Another threat to the internal validity of this study was one of instrumentation. The questionnaire itself consisted of 50 forced-choice and open-ended questions. This format, while allowing the subjects to personalize and qualify answers more accurately, may have been seen as more difficult to the subjects than forced-choice only questions. As a result, some questionnaires were incomplete. These incomplete items were disregarded for statistical analysis. Moreover, if the questionnaire was perceived as difficult, the likelihood existed that the questionnaire was not completed in its entirety when coupled with postpartum factors of fatigue, discomfort, and parenting concerns.

There were various methods employed to deal with the threats to internal validity. The subjects were asked to complete the questionnaire when feeling well but before they left the health clinic. This ensured that the questionnaire process was able to be halted and restarted several times if necessary, to allow for child care demands or interruptions by health clinic staff. Researcher influenced threats to internal validity were addressed by a cover letter, detailing instructions to the subjects, accompanying each questionnaire. The health clinic staff, with whom subjects

had an established relationship, approached each potential subject and asked them if they would pariticpate in the study. No coersion was used and any subject could freely decline to participate.

Each questionnaire was accompanied by a pencil and a plain envelope in which the completed questionnaire was sealed by the subject. The sealed envelope was then deposited by the subject in a box at the appointment desk. This procedure was used to assure anonymity.

When considering external validity, the project was threatened because the subjects comprised a convenience sample rather than a random sample. This subject group may not have been representative of the larger population.

There are many factors that influence the external and internal validity and reliability of a study, even when attempts to control these factors are instituted. Because of these factors, the findings of this study may not be generalized beyond this particular sample.

Sample

Forty-seven subjects were recruited from a Public Health Clinic in a large Midwestern city. Potential subjects were screened for appropriateness using the following parmeters: ability to read and write English; live birth of a seemingly healthy infant; and willingness to participate

in the questionnaire process. The level of prenatal care was assessed by using a modified version of the Adequacy of Prenatal Care Utilization Index (APNCU) developed by Kotelchuck (Kotelchuck, 1994). This particular scale essentially classifies prenatal care as inadequate if the care begins after the fourth month of pregnancy (Appendix A). Twenty-nine women out of the possible 47 subjects agreed to participate in the study.

Instrument

A questionnaire (Appendix B) was utilized to elicit the subjects' responses pertaining to perceived barriers and perceived motivators to prenatal care. This questionnaire was developed by the student-researcher (under the guidance of the thesis committee chairperson), based on an extensive review of the literature and on an original work of Lia-Hoagberg (Lia-Hoagberg, 1990) and colleagues at the University of Minnesota. (Permission to use the Lia-Hoagberg et al. tool is found in Appendix C.) In its present form the questionnaire includes items that elicit information concerning sociodemographic data, reproductive history, and perceived benefits and barriers to prenatal care. The questionnaire itself consisted of 50 forced-choice and open-ended questions. Responses to the open-ended questions were scored by two experts in the neonatal and women's

health fields. Responses were coded individually and then a consensus was reached among the experts. If a consensus was not reached, the response was omitted.

The instrument was pretested by 4 pregnant women for clarity and ease of completion as a means of enhancing reliabilty. Content validity for the questionnaire was established through perinatal care providers and a review of the literature.

Procedure

After receiving approval from the Human Subjects Review Committee at Grand Valley State University (Appendix D) and director of the Center for Family Health (Appendix E), potential candidates were screened on a daily basis over a two week period. The initial screening was done by the public health nurses and nurse practitioners to establish whether the potential subject met the screening criteria. The screening procedure involved the following parameters: being able to read and write English; birth to a live healthy infant within the previous four to six weeks; and willingness to participate in the research project. Subjects were then given a packet containing a pencil, the questionnaire, cover letter, and plain return envelope.

The questionnaire was completed while subjects waited for their scheduled clinic appointment. Upon completion, subjects placed the questionnaire in the previously identified return envelope and deposited it in the return box.

The subjects were assured that their participation in the project would not in any way affect the care they or their infants received from the health clinic. Furthermore, assurances were given regarding the anonymity of responses. No individual respondent was identified by name or with any particular behavior or response.

CHAPTER 4

DATA ANALYSIS

Characteristics of Subjects:

The study's targeted health care clinic had 230 scheduled clients who were seen by health care professionals during a two week period in June of 1996. Screening for potential study subjects found 47 women who met the selection criteria. Of these, 29 women (61.8%) agreed to fill out the questionnaire, thus consenting to participate in the study.

The demographic data for this convenience sample is shown in Table 1. The representative subject had a mean age of 22.8 years. This represents a range of 15 to 36 years and a standard deviation (SD) of 5.84 years. The majority of the subjects claimed to be white (82.8%), married (62.1%) and multiparous (69%). Unemployed women constituted 51.7% of the sample population. Of these, 37.9% were not actively seeking employment and 13.8% were full time students in high school or college. It is noteworthy that 69.0% of the women sampled

Table 1

Demographic Data (N=29)

Variable	Number	Percent
AGE:		
≤ 19 years	11	37.9
> 19 years	18	62.1
RACE:		
White	24	82.8
Non-white	5	17.2
MARITAL STATUS:		
Single	19	65.5
Married	10	34.5
EDUCATION:		
< High school	7	24.1
≥ High school	22	75.9
EMPLOYMENT:		
Unemployed	15	51.7
Employed	14	48.3
INSURANCE:		
Government assistance	20	69.0
Private/Self pay	9	31.0
PARITY		
1	9	31.0
2	14	48.3
3	2	6.9
4	4	13.8

were receiving some type of government financed assistance that reimbursed the health care providers for health care services received during the pregnancy.

Findings

The literature review revealed several factors that tend to predict whether pregnant women enroll, when they enroll, and whether they continue with such a program. These factors have traditionally been grouped into demographic, psychosocial, and systems variables. The tool used in this study addressed 10 demographic variables, 20 psychosocial variables and 16 systems variables.

When analyzing the data of the most recent pregnancy history, several identifying characteristics became obvious. Although 69% percent of the pregnancies were unplanned, 89.7% of the subjects knew of the pregnancy by the end of four months gestation. By the end of the first two months gestation, 58.6% of the women had revealed the pregnancy to another person. Furthermore, 86.2% of the sample regarded prenatal care as moderately to very important and were "afraid something might go wrong" if they did not get prenatal care. The same percentage of women (86.2%) scheduled their first prenatal care appointment before the end of the fourth month of pregnancy.

The purpose of this research project was to attempt to identify perceived barriers and/or motivators to participation in a prenatal care program. The literature review revealed several perceived barriers and motivators, as well as demographic data that tend to predict whether women enroll in, when they enroll in, and whether they continue with such a program. This study queried the sample on 8 possible motivators and 16 possible barriers, as identified by the literature.

The eight motivators were analyzed descriptively. The percent of subjects who rated a motivator as important or very important was computed among those for whom the motivator was applicable. Four motivators emerged as the most important to this sample (see Table 2). They were "belief that prenatal care would help me have a healthy baby", "family or friends stating the importance of prenatal care", "having a professional with whom to discuss concerns", and "being afraid something would go wrong without getting care". Two additional motivators were applicable to less than half the sample but were rated as important. Of the 13 women in the study who had other children, 69% said "having someone to watch those children" was an important motivator to receiving prenatal care. While 14 (48% of the total sample) said that "having help getting

TABLE 2

Motivators Rated as Most Important to Prenatal Care

MOTIVATOR	APPLICABLE NUMBER (%) N=29		RATING OF IMPORTANT/V.IMPORTANT NUMBER (%)*	
Helped me have a healthy baby	29	(100)	25	(86)
Others affirming importance of PNC	29	(100)	23	(79)
Help getting to an appointment	15	(52)	11	(73)
Professional available for reassurance	28	(96)	20	(71)
Someone to watch other children	13	(45)	9	(69)
Afraid of outcome without PNC	29	(100)	19	(65)

*computed on the basis of the subjects for whom this was applicable

to appointments" did not apply, 73% of the other women said this factor was important to very important. Data from the perceived motivator section suggests that 2 items -"being told I had to get care", and "having other health problems"- were the least important to the sample (see Table 3). The perceived motivators section also afforded the subjects an opportunity to state any other factors that helped or encouraged them to obtain health care during their pregnancies. Twenty-two women offered additional reasons as motivation for seeking prenatal care. The responses were categorized and frequencies calculated. Among the women offering additional motivators, "reassurance that things were normal" was cited by 50% (n=11). This was followed by "liking the health care provider" 22.7% (n=5), "health of the baby or previous health problems" 18.2% (n=4), "being treated with respect" 4.5% (n=1), and "did not like anything about my care" 4.5% (n=1). One response, "only in labor 4 hours", was disregarded and not included in the analysis because it did not pertain to prenatal care.

The perceived barriers section of the questionnaire listed 16 possible reasons for not entering, entering late, or failing to continue with prenatal care. Ten of these barriers were not applicable to a majority of the subjects (see Table 4). The responses related to 5 of the barriers

TABLE 3

Motivators Rated as Least Important to Prenatal Care

MOTIVATOR	LEAST IMPORTANT	
	NUMBER	PERCENT*
Being told I had to get prenatal care (n=25)	21	72
Experiencing other health problems (n=29)	18	62

*computed on the basis of the subjects for whom this was applicable

TABLE 4

Barriers Rated as "Not Applicable to Receiving Prenatal" for the Majority Of Subjects

BARRIER	NOT APPLICABLE	
	NUMBER	PERCENT
Children/family were sick	24	88.9
Considered an abortion	24	88.9
Personal/family problems	21	77.8
Childcare problems	21	77.8
Unhappy with past health care	20	74.1
Couldn't afford transportation	19	70.4
Difficulty with transportation	19	70.4
Not treated with respect	17	63.0
No money or insurance	17	63.0
No respect re: health decisions	17	63.0

varied and were more evenly distributed between those who rated the barrier as "not or slightly important" and those who rated the barrier as "important or very important" (see Table 5). Only 1 of the barriers, "waiting a long time at the clinic or office" (cited by 56.2% of the women as important or very important) appeared to make it hard for women to obtain prenatal care or make them not want to go to the office or clinic.

Family size typically consisted of two children or less in 89.7% of the subjects, with all of those children being less than six years of age. Interestingly, of those women who had children, 69.2% cited "having someone to watch other children as a motivator in obtaining prenatal care but only 16.7% cited childcare problems as a barrier in obtaining prenatal care. The physical nature of getting to the clinic did not seem to be a major barrier in receiving prenatal care for most women. Seventy-six percent of the subjects were within 20 minutes or less of the clinic (mean 17, SD 7.58). Furthermore, for the 15 women who thought "having someone to help me get to prenatal care appointments" was relevant, 11 women (73%) rated this help as important or very important. Difficulty in getting transportation to the clinic and inability to afford transportation were mentioned

TABLE 5

Barriers of Varing Importance to Receiving Prenatal Care

BARRIER	APPLICABLE N=29 NUMBER (%)	RATING NOT/SL.IMP NUMBER (%)	RATING IMP./V.IMP NUMBER (%)
Unhappy/mixed feelings about pregnancy	15 (52)	7 (47)	6 (40)
Did not feel well	14 (48)	7 (50)	5 (36)
Provider's percpetion of lifestyle	14 (48)	7 (50)	7 (50)
Does not visit doctor unless sick	12 (41)	44 (33)	4 (33)
Office/clinic hours at wrong times	11 (38)	5 (45)	5 (45)

*computed on the number of subjects who answered the question

as barriers in obtaining prenatal care by only 11.1% of the sample.

When the subjects arrived at the office/clinic, 51.7% saw an obstetrician, 13.8% saw a certified nurse midwife, 3.4% saw a family physician, and 31.0% saw a combination of obstetrician and certified nurse midwife. Seventy-four percent of the subjects were satisfied or very satisfied with the care they received.

Summary

The mean age of the sample was 22.8 years. The majority of the women were white, married, and multiparous. This majority was unemployed and receiving Medicaid insurance. Unplanned pregnancies accounted for the majority of the women and 38% of the women did not know they were pregnant for sure until three to six months into the pregnancy. There was an overwhelming belief by this sample (83%) in the importance of prenatal care.

Motivation for seeking prenatal care was rated as important to very important for six variables: belief that care would help women have a healthy baby, others stating the importance of prenatal care, help in getting to an appointment, reassurance from health professionals, someone to watch other children, and being afraid of the outcome without prenatal care.

There were 16 variables that were rated as to their importance as barriers to receiving prenatal care. Only one, long waits at the office/clinic, was cited as important to very important by a majority of the subjects.

CHAPTER 5

DISCUSSION AND IMPLICATIONS

Discussion

Inadequate prenatal care has generally been associated with less than desirable birth outcomes for both mothers and their children (Aved et al., 1993; Burks, 1992; Cooney, 1985; Goldenberg et al., Harvey & Faber, 1993; Leatherman et al., 1990; Lia-Hoagberg et al., 1990; McClanahan, 1992; Miller et al., 1989; Peoples & Siegel, 1983; Rawlings et al., 1995; Reis et al., 1992; Scupholme et al., 1991; Tiedje et al., 1992; York et al., 1993). One strategy that has been promoted to rectify this situation is early and continuous participation in a prenatal care program. Unfortunately, many pregnant women do not enroll in prenatal care for a variety of reasons. Attempting to identifying these reasons has proven to be a complex undertaking. Numerous studies have identified countless factors that influence prenatal care participation. However, no one strategy has emerged that guarantees participation in prenatal care. Furthermore, no one combination of variables can predict with absolute

certainty which women will, and which women will not, enroll early and continue regularly with prenatal care.

In an attempt to organize the volumes of research studies that relate to prenatal care usage, the Health Belief Model (HBM) (Rosenstock, 1974) can be a valuable tool. This model has defined constructs that inter-relate and then predict the likelihood of a person engaging in a recommended health action. The group of factors that influence two of the constructs, perceived susceptibility and seriousness and perceived benefits and barriers, are considered the modifying factors. Additionally, general categories of demographic, psychosocial and structural variables are included as modifying factors. A final modifying factor in the HBM is the cues-to-action that stimulate or motivate appropriate health behavior. For the context of this study, the recommended health action and the appropriate health behavior has been identified as early and regular prenatal care. The HBM was used as the guiding framework for this study in an attempt to identify which perceived barriers and perceived motivators were important to women seeking prenatal care.

The modifying factors that are grouped as demographic variables to prenatal care were the first to be studied by earlier researchers. These variables suggest that women who

are young (≤ 19 years), single, non-white, have less than a high school education, are unemployed and on government funded financial assistance programs are more likely to receive inadequate prenatal care than older, married women with at least a high school education and receive no financial aide from the government (Aved et al. 1993; Burks, 1992; Cooney, 1985; Curry, 1990; Giblin et al., 1990; Goldenberg et al. 1992;). Additionally, several studies point out that women of increasing parity have decreasing levels of adequate prenatal care (Harvey & Faber, 1993; Lia-Hoagberg et al, 1990; Sable et al., 1990; Scupholme et al., 1991).

For the purpose of this study, perceived susceptibility, perceived seriousness and perceived threat of receiving inadequate prenatal care were addressed by asking the sample how important it was to receive prenatal care during pregnancy, and, if they were afraid something might go wrong if they did not get prenatal care. Twenty-four subjects (82.8%) stated that prenatal care was important or very important. This closely parallels a study by Reis et al. (1992), that found 91% of the respondents believed that prenatal care was very important. Reis et al. (1992) further found that subjects believed this care should begin in the first three months of pregnancy. While this

current research project did not specifically ask when prenatal care should begin, only 48.3% of the sample sought care during the first two months of pregnancy. Furthermore, one subject who indicated that prenatal care was very important, delayed care until the fifth to sixth month of pregnancy. This woman displayed many of the factors hallmarked in the literature for inadequate prenatal care. She was young (18 years old), single, had not completed high school, was unemployed and not looking for a job and was participating in Medicaid. The incongruity between expressed belief in the importance of prenatal care and under enrollment or late enrollment in prenatal care remains unreconciled.

Demographic Factors. The literature cites an age of 19 years or less as a major risk factor for receiving inadequate prenatal care (Aved et al., 1993; Burks, 1992; Cooney, 1985; Curry, 1990; Driscoll et al., 1990; Goldenberg et al., Harvey & Faber, 1993; Leatherman et al., 1990; Lia-Hoagberg et al., 1990; McClanahan, 1992; Poland et al 1987; Sable et al., 1990; Scupholme et al., 1991; Young et al., 1989;). When comparing the researched data on the demographic of age to the current study, a similar pattern emerged. There were 11 teenagers in this sample and 45.4% of them initiated care in the first or second month of

pregnancy. This can be compared to the >19 age group where care was started by 50% of the subjects during the same time period. Importantly, no teenagers in the sample surveyed began care in the last trimester of pregnancy. However, 5.6% if the >19 age group started care at that time. Why this occurred is uncertain. It may be that once the teenage pregnancies became known to parents or other adults, these young women were scheduled into a care program. Moreover, the presence of the health care clinic (where the majority of these teenage women received care) in the community is well known. This clinic has an excellent reputation and consolidates ancillary services, such as the Women, Infants, and Children program (WIC) and childbirth preparation classes, in the same clinic building. Providing multiple services in one area has been shown to increase participation in prenatal care (Miller et al., 1989; Sable et al, 1990).

Another demographic barrier that traditionally signals inadequate prenatal care is racial group identification. Almost without exception, every article cited in the literature review (see Chapter 2), points out that being a member of a minority race is a risk factor for receiving less then optimum prenatal care. In this study, statistical analysis failed to show any significant relationship between

racial origins and timing of prenatal care. However, not one of the four African American women in the study initiated care during the first two months of pregnancy. For white women, care was initiated 54.2% of the time during the first two months of pregnancy. At the other extreme, no African American women started care in the last trimester of pregnancy while one white woman began care at this late date. The only Hispanic woman in the study made contact with the health care system during the first two months of the pregnancy. Notably, this sample was predominantly white (82.8%), which may partially account for the findings.

This trend can be partly explained by comparing race and when these women "knew they were pregnant for sure". Seventy-five percent (n=3) of the African American women did not know they were pregnant for sure until the third or fourth month of pregnancy; therefore, they could not enroll in prenatal care any sooner. The remaining African American woman did not know she was pregnant until the fifth or sixth month of pregnancy. When examining the data for white women, the figures tend to show a different pattern. Sixteen women (66.7%) knew they were pregnant in the first 2 months of pregnancy and 54% started care at this time. For those white women confirming pregnancy in the third to fourth month, 33.3% enrolled in prenatal care. This study indicates that

a distinct educational program and dissemination system for African-American women concerning recognition of pregnancy and prenatal care may be needed.

Education levels have been identified as a modifying variable for participation in prenatal care. The literature identified decreasing education levels with inadequacy of prenatal care (Aved et al. 1993; Cooney, 1985; Goldenberg et al., 1992; Harvey & Faber, 1993; Higgins et al., 1994; McClanahan, 1992; Peoples & Siegel, 1983; Sable et al., 1990; Scupholme et al., 1991; Young et al., 1989; York et al., 1993). The data from this study implies that a relationship may exist between increasing levels of education and early enrollment in a prenatal care program. For those women with some college education or those possessing a college degree, 100% were enrolled in prenatal care by the fourth month of pregnancy. This is in sharp contrast to the women with less than a high school diploma (28%) who started prenatal care in the fifth month of pregnancy or later. This study suggests that increasing levels of education increase the likelihood of early participation in prenatal care.

When considering the demographic variable of marital status, the literature review points out that single women are in a higher risk category for inadequate prenatal care

(Burks, 1992; Cooney, 1985; Curry, 1990; Driscoll et al., 1990; Goldenberg et al., 1992; Harvey & Faber, 1993; Lia-Hoagberg et al., 1990; Poland et al., 1987; Sable et al., 1990; Scupholme et al., 1991;). The results from this sample were very similar to those cited in the literature review. Women who were married sought out and were enrolled in prenatal care earlier than single women. Likewise, the reviewed literature emphasized that being single increased the likelihood of inadequate prenatal care (Augustyn & Maiman, 1994; Goldenberg et al., 1992; Harvey & Faber, 1993; Higgins, et al., 1994; Peoples & Siegel, 1983; Scupholme et al., 1991; Young et al., 1989; York et al., 1989). This study offers supporting data for the connection between marital status and timing of prenatal care enrollment. All of the married women, and the one woman in the sample who was divorced, were enrolled in prenatal care by the fourth month of pregnancy. Prenatal care participation for 22% of the single women did not start until the fifth month of pregnancy. One single woman began care as late as the last trimester of pregnancy. The presence of the local health clinic may again explain, in part, these findings.

Increasing parity has been associated with delayed or inadequate prenatal care across differing populations (Aved, et al., 1993; Augustyn & Maiman, 1994; Goldenberg et al.,

1992; Harvey & Faber, 1993; Higgins et al., 1994; McClanahan, 1992; Poland et al., 1987; Sable et al., 1990). The current study population was 69% multiparous, with 50% of these women initiating care during the first two months of pregnancy. In comparison, 44.4% of the primiparous women enrolled in care during the first two months of pregnancy. Since the multiparous women in this sample initiated care more often during the first two months of pregnancy, the current study cannot support the literature claims that increasing parity is correlated with delayed or inadequate prenatal care. However, the multiparous group also had 15% of the subject entering care during the fifth to ninth month of pregnancy while none of the primiparous women started care during this time. Whether this group of women view successive pregnancies as less risky than a first pregnancy or have other concerns (childcare problems, health clinic factors, or simply fatigue) that impact prenatal care participation remains to be delineated.

When analyzing the literature, it is sometimes confusing whether unemployment and Medicaid receipt are referring to the same demographic modifying factor. According to Augustyn & Maiman (1994), Goldenberg et al. (1992), York et al. (1993) and Young et al. (1989) unemployment is specifically mentioned as an indicator for

inadequate prenatal care. Cooney (1985), Harvey & Faber (1993), Higgins et al. (1994), Kozlowski (1994), Leatherman, et al. (1990), Lia-Hoagberg et al. (1990), and Sable (1990) state that insurance coverage, Medicaid eligibility or participation, is a factor in inadequate prenatal care.

Analysis of the this study's data for the employment and insurance coverage variables revealed several observations. Thirty-one percent of the sample were employed more than 30 hours per week and all of those women, regardless of insurance indemnification methods, received initial prenatal care during the first four months of pregnancy. For this group of women, 66.7% paid for their prenatal care either by private insurance, by themselves, or by their families. Those receiving Medicaid comprised 33.3% of the of the women working 30 hours a week or more.

Eleven women (37.9%) were unemployed and not actively looking for a job. This group of women were receiving Medicaid for reimbursement for health care expenses 81% of the time. Four (36%) of these unemployed women started prenatal care in the fifth to ninth month of pregnancy. No other group of women in the study initiated care this late during the pregnancy.

Unemployed, full-time students in high school or college comprised 13.8% of the sample population. Health

care during pregnancy for these students was paid for by Medicaid in 75% of the cases. Two students (6.8%) were employed part-time. Health care was financed for one student by Medicaid and for the other student by the student herself or her family. Regardless of insurance coverage or employment status, fully 100% of the students enrolled in prenatal care by the third to fourth month of pregnancy.

While these figures tend to support the literature that unemployment and Medicaid coverage are related to inadequate prenatal care, they are statistically inconclusive. Moreover, the results of this study suggest that Medicaid coverage does not predict early prenatal care participation. Study data revealed that 20% of the women receiving Medicaid initiated care in the fifth to ninth month of pregnancy. Therefore, as the literature suggests, removing the financial barriers to receiving care will not guarantee participation in prenatal care.

Psychosocial factors. The HBM identifies another group of modifying factors labeled as psychosocial variables. These include such traits as personality, social class, and peer group and reference group pressure (Rosenstock, 1974). This group of modifying factors was addressed in this study by the questions "was the pregnancy planned or unplanned",

"when did you tell people you were pregnant", and "who advised or encouraged prenatal care".

When eliciting information regarding the planning of pregnancy, a majority of the women in this study (69%) indicated that this most recent pregnancy was unplanned. The data indicates that only 40% of these women started prenatal care in the first two months of pregnancy. For those women who planned their pregnancies, 66.7% started prenatal care in the first two months of pregnancy. Not all of the women who had unplanned pregnancies delayed prenatal care and not all of the women with planned pregnancies initiated early prenatal care. This suggests that pregnancy itself may have associated factors, other than health of the mother and baby, that must be dealt with before adequate prenatal care may be initiated.

The nature of confiding the pregnancy in someone else has been reported to enhance early participation in prenatal care (Augustyn & Maiman, 1994; Giblin et al., 1990; Lia-Hoagberg et al., 1990; Poland et al., 1987). This study tends to support that assertion. Of the 17 women who told others of the pregnancy during the first two months of pregnancy, 64.7% received care during that same time period. Three women in the study (10.3%) did not tell anyone of the pregnancy until after the first two months of pregnancy.

None of these women initiated care in the first two months of pregnancy. Furthermore, 66.6% them did not start care until the fifth to ninth month of pregnancy.

The psychosocial variable of family or friends advising women to get prenatal care appeared to promote early prenatal care in this study. This finding is consistent with the literature (Augustyn & Maiman, 1994; Curry, 1990; Giblin et al., 1990; Goldenberg et al., 1990; Higgins et al., 1994; Hubbard et al., 1984; Lia-Hoagberg et al., 1990; Poland, 1989; Sable et al., 1990; York et al., 1993). Of the 14 women who initiated prenatal care in the first two months of pregnancy, 10 (71.4%) stated that their family or friends told them how important prenatal care was during pregnancy. Advice to all of the women in the study came from a variety of individuals. The father of the baby was cited as the encourager of prenatal care for 19.6% of the subjects. Parents (17.6%) and friends (15.7%) were the other major groups of advisors. Remarkably, 33.3% of the women said they were self-motivated to receive prenatal care. Advising pregnant women to enroll early in prenatal care and participate in that care regularly may become a societal and educational goal if further research substantiates these findings.

Structural factors. The final category of modifying factors that are addressed in the HBM are the structural variables. These include knowledge about a condition and prior contact with the condition. Early recognition and knowledge of a pregnancy has been identified in the literature as a factor in initiating early prenatal care (Aved et al, 1993; Burks 1992; Curry, 1990; Giblin et al., 1990; Goldenberg et al., 1992; Harvey & Faber, 1993; Lia-Hoagberg et al, 1990; McClanahan, 1992; Poland, 1989; Sable et al., 1990). When considering adequacy of prenatal care, one of the key factors to early enrollment in prenatal care is the confirmation of the pregnancy itself. Thirty-eight percent of this sample did not know they were pregnant for sure until three to six months into the pregnancy. Therefore, these women could not enroll in prenatal care prior to gaining this knowledge. Pregnancies that were not recognized until the fifth to sixth month, accounted for 12.5% of the cases. Two of these women sought care immediately after becoming aware of the pregnancy and one woman delayed care until the last trimester of pregnancy. This data tends to support the idea that women enroll in prenatal health care shortly after they discover they are pregnant. Therefore, increasing the awareness of pregnancy risk behaviors and the positive signs for pregnancy, may

increase the early recognition of a pregnancy in progress and increase the early enrollment in a prenatal health care program.

Another modifying variable that influences prenatal care utilization is a previous health problem with a baby. Defined for this study as a "baby who had to stay in the hospital after the mother went home". Lia-Hoagberg et al.(1990), York et al. (1993), Young et al. (1989) assert that health problems with a baby in a previous pregnancy increases the likelihood of early prenatal care participation in subsequent pregnancies. For those women in this study that had previously delivered infants requiring hospital care after the mother went home, 66.7% entered prenatal care during the first two months of the subsequent pregnancy. No women who experienced previous health care problems with a baby entered prenatal care after the fourth month of pregnancy. Women who had never had a baby with health problems (79.3%), entered the prenatal care system at various times during the pregnancy with only 43.5% entering care during the first two months of pregnancy. According to this study, eight women or their infants experienced health problems either during the recent pregnancy, delivery or postpartum period. Retrospectively, 50% of these women were participating in prenatal care during the first two months

of pregnancy and the other 50.5% were in a care program by the end of the fourth month of pregnancy. This implies that women who had health care problems or had delivered infants with health care problems, may view prenatal care as one measure to prevent problems in future pregnancies.

Cues-to-action. The HBM postulates that cues-to-action, which act as triggering mechanisms, influence the likelihood of taking a recommended health action. The recommended action in this study is participation in early and continuous prenatal care. Advice from others is one type of triggering mechanism (Rosenstock, 1974). Advice to pregnant women concerning the importance of prenatal care has already been discussed with 71.4% of the subjects indicating they received such advice from family and/or friends. Another major contributor in cues-to-action is media coverage of the phenomenon. While collecting data for this study, it was learned that the local newspaper in the county where the health clinic is located, has been actively promoting participation in prenatal care for the past five years. Additionally, the public schools in the county have instituted progressive campaigns to enroll pregnant teenagers in prenatal care. These triggers appear to be having some success. As evidenced by this study, 48.3% of the subjects were enrolled in prenatal care in the first two

months of pregnancy and an additional 37.9% were in care by the end of the fourth month of pregnancy.

The final construct of the HBM states that the likelihood of taking a recommended health care action is, in part, determined by the perceived benefits of the action, minus the perceived barriers to the action (Rosenstock, 1974). Therefore, a major section of this study was devoted to identifying the perceived barriers and perceived motivators to participating in prenatal care.

Perceived motivators. After a review of the literature, eight motivators to receiving prenatal care were identified and incorporated into the study. The most important motivator for this sample (86%) was the belief that prenatal care would "help me have a healthy baby". However, only 48.3% of this group enrolled in a prenatal care program in the first two months of pregnancy. An additional 37.9% were enrolled by the end of the fourth month of pregnancy. Women in this study overwhelmingly believed in the importance of prenatal care (82.8%), but less than 50% of the this sample's subjects actually enrolled in that care in the first two months of pregnancy. This discrepancy should be resolved. One possible explanation is that women are not counseled about the importance of care during the first two months of pregnancy. Moreover, in this sample 11 women

(37.9%) did not even know they were pregnant until they were three to six months along in the pregnancy. Education relating to the early recognition of a pregnancy and early enrollment in prenatal care appears essential.

Another motivator for obtaining prenatal care was family and/or friends affirming the importance of that care. This motivator was cited by 79% of the subjects. No one in the study said that family or friends reinforcement of prenatal care was not important. This supportive network has been cited in the literature in varying degrees of importance. Augustyn and Maiman (1994) stated that when social support was operationalized as encouragement for prenatal care by family and friends there was no correlation between prenatal care and adequacy of care. However, St. John and Winston (1989) stated that familial support and family happiness at the news of pregnancy were associated with obtaining adequate prenatal care.

Another aspect of a supportive network is the availability of professional health care workers with whom to discuss health and pregnancy concerns. This factor was important or very important to 71% of the subjects. Additionally, of those women who offered more reasons for participating in care, 50% of the subjects said they were reassured by their health care provider that "things were

going okay." While the availability of a health care provider may be supportive and reassuring to women, it may also be important to keeping women in prenatal care once they are enrolled. It cannot be a factor in those women who delay or forego care entirely. It is logical to extrapolate this reasoning to the following: if women are not enrolled in prenatal care they cannot be comforted or reassured by having a health care provider with whom to discuss concerns.

The fourth most important motivator in this study for participating in prenatal care was the fear of "something going wrong" if prenatal care was not received. Sixty-five percent of the women expressed concerns in this area. The HBM model constructs of perceived suseptibility and perceived seriousness also have implications for this motivator. This may be a factor in the initial enrollment in prenatal care in addition to continuation of such care.

Perceived barriers. Becker et al. (1977) allege that the perceived barriers to taking a recommended health care action must be overcome if the recommended action is to be realized. The literature review delineated a host of perceived barriers to receiving prenatal care. Sixteen were selected and addressed in this study. The subjects were asked to rate these variables as to their individual importance. Ten of these literature identified barriers were

not applicable to a majority of the subjects. There were five barriers to receiving prenatal care that were more evenly distributed between those subjects who rated the barriers as not important/slightly important and those who viewed them as important/very important. Only one of the prechosen barriers was important to very important for a majority of the subjects.

"Having to wait a long time at the office/clinic", was the only important or very important barriers for the majority of the subjects (56.2%). This may suggest support for the literature in which long waits at office or clinics were cited by subjects as barriers to care (Curry, 1985; Driscoll et al., 1990; Goldenberg et al., 1992; Harvey & Faber, 1993; Lia-Hoagberg et al., 1990; McClanahan, 1992; Poland et al., 1987; Sable et al., 1990; Scupholme et al., 1991; Young et al., 1989). Nevertheless, for those women who considered long waits were an important to very important barrier, 55.5% were enrolled in a prenatal care program in the first two months of pregnancy. The importance that the majority of the sample placed on prenatal care may reduce the impact of long waits at the office/clinic.

One of barriers that varied in importance, "I do not like going to the doctor unless I am sick", needs further investigation. If a woman believes that illness is the

motivator for seeking health care and pregnancy is viewed as a healthy, normal life event, then becoming pregnant does not automatically trigger the recommended health care action of seeking prenatal care. A major shift in the focus of educational and informational networks concerning participation in health care should occur. This shift must emphasize that wellness and preventative measures are as important reasons for seeking health care as are illness and palliative measures for established diseases.

The barrier of being unhappy or having mixed feelings about being pregnant was also more evenly distributed. Consistent with the literature (Aved et al., 1993; Augustyn & Maiman, 1994; Curry, 1990; Giblin et al., 1990; Goldenberg et al., 1992; Lia-Hoagberg et al., 1990; McClanahan, 1992; Poland, 1989; Poland et al., 1987), of the six women who cited this barrier as important to very important, only one began care in the first two months of pregnancy. Two of the women began care in the fifth to ninth months of pregnancy. Likewise, for those seven women who rated this barrier as not important or slightly important, four started prenatal care during the first two months of pregnancy and the remaining three women were in care by three to four months of pregnancy. These numbers suggest that attitudes toward a

pregnancy may influence a woman's decision regarding entrance into prenatal health care.

When the sample was asked if "not feeling well" was a barrier to care, the response was again varied. For seven women (26.9%), this barrier was not important or only slightly important. Four of these women (33.3%) initiated care during the first two months of pregnancy and one women began care in the final trimester of pregnancy. There were five women who said "not feeling well" was an important to very important barrier to receiving prenatal care. However, only two women (40%) began care in the first two months of pregnancy. The other three women were in care by three to four months of pregnancy. It seems that for women who perceived "not feeling well" as a barrier to receiving prenatal care, other factors also were influential in prenatal care participation.

The "incompatible office/clinic hours" barrier, in this study, was equally divided between those women (5) for whom this barrier was not important to slightly important and those women (5) for whom this barrier was important to very important. These were women were also divided regarding the timing of prenatal care. Forty percent of the group who rated office/clinic hours at low importance entered a prenatal care program during the first two months of

pregnancy. Likewise, forty percent of the women who saw available appointment hours as an important barrier also managed to initiate care by then end of the second month of pregnancy. The literature review indicated that inconvenient clinic hours were a barriers to early and continuous prenatal care (Curry, 1990; Goldenberg, et al., 1992; Harvey & Faber, 1993; Higgins et al., 1994; McClanahan, 1992; Poland et al., 1987; Sable et al., 1990). This study tends to support that review. Regardless of the rating of importance concerning the office/clinic hours, less than one-half of the subjects (45.4%) were enrolled in prenatal care during the first two months of pregnancy. When analyzing the data for those women who cited inconvenient office/clinic hours as an important to very important barrier, 60% were employed more than 30 hours/week. These results may be due in part to the clinic where the majority of the subjects received their prenatal care. While office hours are scheduled weekdays from 8 a.m. to 5 p.m., evening hours are offered only on Mondays from 5 p.m. to 7 p.m. Additionally, this clinic does not schedule prenatal visits on weekends. Therefore, for women working more than 30 hours/week, scheduling an appointment for prenatal care may be a barrier.

The last perceived barrier that varied in importance for the sample was "worry about what the doctors or nurses thought of my life style". The sample was equally divided between a rating of not important/slightly important (25.9%) or important/very important (25.9). The literature identifies that concerns about personal lifesyle is related to late entry into prenatal care. According to Aved et al, (1993), Curry, (1990), Giblin et al, (1990), Kozlowski (1994), Poland et al. (1987), Reis et al. (1992), and Tiedje et al. (1992), the enrollment in prenatal care and regular participation in such care is related to how a woman perceives her lifestyle is judged by the prenatal health care professionals. This lifestyle may include elements of participation in activities deleterious for the unborn baby (i.e. smoking and alcohol ingestion), actual illegal activity (i.e. illicit drug usage), or simple alternative housing and companionship arrangements. While this study did not address any one particular behavior, the data reveal that perception of lifestyle was important to very important for 25.9% of the sample. For this group of subjects, only 2 women (28.6%) initiated care in the first two months of pregnancy and 3 women (42.9%) delayed care until the fifth to ninth month of pregnancy. This is surprising in lieu of the fact that the office/clinic where the majority of the

women received prenatal care offers a confidential substance abuse counseling program. This program does not automatically report substance abuse to law enforcement agencies. However, this fact may not be well known in the community.

Summary. The HBM was used to organize the literature and guide the construction of a tool to assess timing of a pregnant woman's entry into a prenatal care program. Demographic, psychosocial and structural factors were identified. Additionally, perceived motivators and perceived barriers to receiving prenatal care were described.

The demographic factors that tended to show inadequate utilization of prenatal care were race, less than a high school education, and unemployed and not looking for a job. Psychosocial variables that increase the likelihood of late entry into prenatal care include having an unplanned pregnancy, late recognition of the pregnancy's existence and delay in letting others know of the pregnancy.

There were four perceived motivators that were important for early initiation of prenatal care. These were a belief that prenatal care was worthwhile, family/friends stating the importance of prenatal care, reassurance from

prenatal health care workers, and having a previous baby with nealth care problems.

There was only one factor, long waits at the office/clinic, that was identified by the majority of the subjects as an important/very important barrier to receiving prenatal care. Five other factors (a belief that doctor visits are not necessary unless sick, ambivalent feelings regarding the pregnancy, not feeling well, inconvenient office/clinic hours, and providers perception of subjects lifestyle) were rated equally "not important/slightly important barrier" or "important/very important barrier" by the subjects.

Limitations

Several factors must be considered when accounting for the fact that strict statistical analysis of the data did not permit any significant conclusions to be drawn regarding relationships among the variables. The primary factor that must be considered is the small sample size (n=29). Without a larger sample, attempting to establish a relationship between variables where the effect is small is futile. This is, of course, assuming as evidenced by a preponderance of the literature, that relationships truly exists between certain demographic, psychosocial, and systems variables and adequacy of prenatal care.

An additional concern regarding the sample deals with the 29 women themselves. The selection criteria was broad but it is unknown why 18 women, who were met the criteria, did not participate in the study.

Another factor that deserves consideration relating to this study is the 50 item questionnaire that was used as a tool to elicit information. The imperfection of the tool is especially evident in the sections that were intended to identify perceived barriers and/or motivators to receiving prenatal care. When inspecting the individual questionnaires, the manner in which the answers were marked initiated an unexpected area of scrutiny. Each subject was asked to rate eight perceived motivators and sixteen perceived barriers on the following scale:

1-not important;

2-slightly important;

3-moderately important;

4-important;

5-very important;

6-does not apply.

The perceived motivator items were individually scored on 100% of the questionnaires. The perceived barriers section showed a different pattern of completion. Thirty-five percent of the questionnaires (n=10) had only circled either

response 1 or response 6. Additionally, several questionnaires (13.87%) contained items that were not completed for this section. On two of the questionnaires the entire section was incomplete. Two possible explanations may account for this unexpected occurrence. The pre-chosen items may not have applied to the sample or the format used was inadequate.

According to A.L. Muhich (president of Research Associates, Inc.) the physical layout of the perceived motivators and perceived barriers sections are often seen as intimidating to a variety of populations. Muhich further explained that "unless an individual has experience and familiarity with answering items that are placed in a table form [as was used in the perceived barriers and perceived motivators sections of this study] there is a strong possibility of the items being left blank or of the subject filling in the questionnaire for ease instead of accuracy" (A.L. Muhich, DVM, MPH, personal communication, July 13, 1996). Therefore, each question should be written out and the responses listed anew for each item, even though it increases the questionnaire's length and volume. This format change forces the subject to read each question and decide upon an answer.

The final factor to be considered related to the tool, concerns the question that deals with adequacy of prenatal care. The item that addresses this area is phrased as follows: "How far along in your pregnancy were you when you first had an appointment with a nurse, doctor or midwife?" The six choices to answer this question and the frequency with which each answer was selected is shown in Table 6. The concern here is with choice number three. As previously identified by Kotelchuck's Adequacy of Prenatal Care Utilization Index, care begun in the third or fourth month of pregnancy may be adequate or inadequate depending on the number of visits (as recommended by the American College of Obstetricians and Gynecologists) to a health care professional (Kotelchuck, 1994). Without knowing the number of visits for each subject who chose response number three, it is impossible to determine whether 37.9% of the sample received adequate prenatal care or not.

The phrasing of the adequacy of prenatal care question may provide misleading information. Adequacy of care is usually computed from the time a pregnant woman first visits a health care professional. Depending on office/clinic procedures, a woman may have sought care early in the pregnancy but was not scheduled into care until a later date. Thus the syntax of the question "...when you had your

Table 6

Pregnancy length and initial appointment with health care professional

RESPONSE CHOICE	FREQUENCY	PERCENT
(1) Never had care	0	0.0
(2) 1 or 2 months pregnant	14	48.3
(3) 3 or 4 months pregnant	11	37.9
(4) 5 or 6 months pregnant	3	10.3
(5) 7,8,or 9 months pregnant	1	3.4

first appointment..." may provide very different information from "...when did you first seek care...".

Implications for Nursing

The patterns that emerged in this study were consistent with the literature even though the sample size was small and the responses too infrequent to draw significant conclusions. However, nurses may use this information to identify those women who historically have been associated with inadequate prenatal care participation. Once identified, nurses should encourage these women to seek early and regular prenatal care. A major thrust of nursing's role should involve education regarding pregnancy and the reproductive process. The educational component must be structured so that women will incorporate the disseminated knowledge into their lifestyles. Additionally, nurses can become resources for individuals seeking information on all phases of reproductive health.

Conclusions and Recommendations

This study suggested support for the literature regarding demographic, psychosocial and systems barriers and motivators for participation in a prenatal care program. However, because subjects comprised a small convenience sample, the findings should not be generalized or used to predict prenatal care usage in the general population.

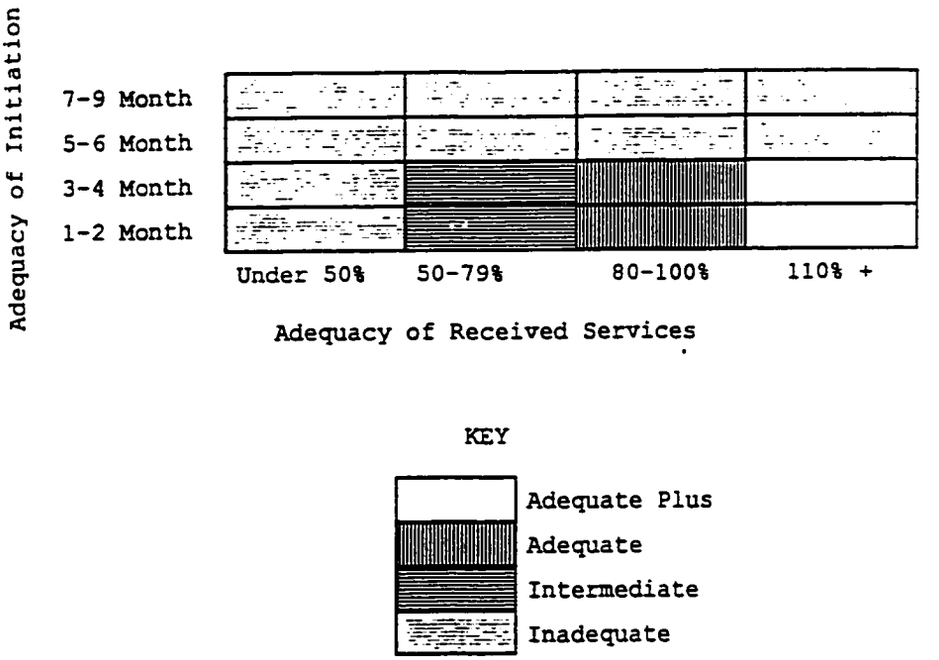
Additionally, the retrospective nature of this inquiry may affect the subjects recall of important items relating to prenatal care participation.

Another study, containing modifications in the questionnaire and using a larger more heterogeneous sample, could serve as a basis for more rigorous research. The timing of additional research may also affect the study's results. Research initiated during pregnancy, when the outcome is unknown may garner fresh insights to women's perceptions of barriers and motivators to enrolling in prenatal care. As data continue to accumulate identifying the perceived barriers and perceived motivators for prenatal care participation, nursing can be instrumental in using that information to create unique programs assuring that women and their babies receive early and continuous care.

APPENDICES

APPENDIX A

Adequacy of Prenatal Care Utilization



Kotelchuck, M. (1994). An evaluation of the Kessner adequacy of prenatal care index and a proposed adequacy of prenatal care utilization index. American Journal of Public Health, 84(9), 1414-1420.

APPENDIX B

Prenatal Care Questionnaire

You are being asked to participate in a study that looks at the health care women receive when they are pregnant. There are many reasons why women decide to get care or decide not to get care during their pregnancies. It is important that doctors and nurses understand how women want their health care provided so they can make sure that the care meets women's needs. The purpose of this study is to discover **YOUR** reasons for getting, delaying, or not getting health care during your recent pregnancy.

As a childbirth educator, I am asking you to participate in a study that asks women about the health care they received they received during pregnancy. If you decide to participate in the study, all you need to do is fill in the following questionnaire, seal it in the accompanying envelope, and place the envelope in the box at the appointment desk. The questionnaire will take approximately 20 minutes to complete. It will include questions about your pregnancy, and what influenced your decision to either seek care during your pregnancy or not. You are free to discontinue filling out the questionnaire at any time. **Please put all questionnaires, completed or not,** in the envelopes and return them to the box at the appointment desk.

All the information you provide will be kept strictly confidential. The information gathered will be used only as group information and no individual will be identified by name or responses.

Your decision about whether or not to participate in this study will not affect the care you or your child receives.

Thank-you for your time and for helping us learn about health care delivery to pregnant women and their children.

Chris Davis
1-517-563-2860

PRENATAL CARE STUDY

DIRECTIONS: Please answer the following questions about you and your family. Circle only one answer, unless the question says you can circle more than one. If there is a blank space after a question, write down your answer in the blank space.

1. I am _____ years old.

2. I am

1. African American
2. White, not Hispanic
3. Asian/Pacific Islander
4. Hispanic
5. Native American
6. Other (please specify)_____

3. When I first saw a health professional for this pregnancy, I was

1. Married
2. Single
3. Widowed
4. Divorced
5. Separated
6. Other (please specify)_____

4. What is the highest level of education you have completed ?

1. I have not completed high school.
2. I have a high school diploma or GED.
3. I have had some college education.
4. I have a college degree.

5. How would you describe your employment outside the home ?

1. Unemployed, not looking for a job
2. Unemployed, full time student in high school or college
3. Employed part-time and a student in high school or college
4. Employed less than 30 hour per week
5. Employed 30 hours or more per week

6. Appointments for health care during pregnancy were paid for by

1. Medicaid
2. MSSP (Maternal Support Services Program)
3. Private Insurance
4. Myself or my family
5. Free
6. Unsure

7. Was this most recent pregnancy planned ?

1. No
2. Yes

8. Counting the most recent pregnancy, how many times have you been pregnant ?

1. One
2. Two
3. Three
4. Four
5. Five or more

9. Did you ever have a baby that had to stay in the hospital when you went home ?

1. No
2. Yes

10. How many miscarriages have you had ? (The number of babies born dead before 20 weeks of pregnancy.)

1. Zero
2. One
3. Two
4. Three
6. Four or more

11. Including this baby, how many children age 6 and younger are living with you ?

1. One
2. Two
3. Three
4. Four
5. Five or more

12. How far along in your pregnancy were you when you found out were pregnant for sure ?

1. 1 or 2 months pregnant
2. 3 or 4 months pregnant
3. 5 or 6 months pregnant
4. 7, 8 or 9 months pregnant

13. How important do you feel it is for women to receive care during pregnancy ?

1. Unsure
2. Not important
3. Slightly important
4. Moderately important
5. Important
6. Very important

14. How far along in your pregnancy were you before you told anyone you were pregnant ?

1. 1 or 2 months pregnant
2. 3 or 4 months pregnant
3. 5 or 6 months pregnant
4. 7, 8, or 9 months pregnant

15. How far along in your pregnancy were you when you first had an appointment with a nurse, doctor, or midwife?

1. Never had care during my pregnancy
2. 1 or 2 months pregnant
3. 3 or 4 months pregnant
4. 5 or 6 months pregnant
5. 7, 8, or 9 months pregnant

16. Who, if anyone, advised or encouraged you to get care during your pregnancy ? (Circle as many as apply.)

1. Baby's father
2. My parent(s)
3. Other family member(s) (please specify:_____)
4. Teacher/Counselor
5. Health care person
6. Friend(s)
7. Self-motivated
8. No one
9. Other (please specify:_____)

17. Who provided your care during this pregnancy ? (Circle as many as apply .)

1. Obstetrician
2. Family doctor
3. Certified Nurse Midwife
4. Lay Midwife
5. Other (please specify)_____

18. How satisfied were you with the care you received during pregnancy ?

1. Not at all satisfied
2. Slightly satisfied
3. Moderately satisfied
4. Satisfied
5. Very satisfied

19. Did you or your baby experience any health problems during the pregnancy, birth, or since you have been home ?

1. No
2. Yes (please specify)_____

20. My health during this pregnancy was

1. Poor
2. Fair
3. Good
4. Very Good
5. Excellent

21. How many minutes does it take you to get to the clinic/office for health care ?

_____minutes

Below are some reasons that women have said **ENCOURAGED** them to seek care during their pregnancies. Please circle the number of the response that indicates how important these things were to you when you made a decision about health care during your pregnancy.

1-Not important
2-Slightly important
3-Moderately important
4-Important
5-Very important
6-This does not apply to me

	Not important	Slightly important	Moderately important	Important	Very important	This does not apply to me
23. Someone in my family or my friends told me how important care was during pregnancy.	1	2	3	4	5	6
24. I thought prenatal care would help me have a healthy baby.	1	2	3	4	5	6
25. I have other health problems I thought would harm my baby.	1	2	3	4	5	6
26. I liked having a doctor or nurse to talk to about the pregnancy, baby & other concerns.	1	2	3	4	5	6
27. I was told I HAD to get care during my pregnancy.	1	2	3	4	5	6
28. I had someone to help me get to an appointment.	1	2	3	4	5	6
29. I had someone to watch my other children when I went for an appointment.	1	2	3	4	5	6
30. I was afraid something might go wrong if I did not get care during my pregnancy.	1	2	3	4	5	6

31. Was there anything else that made you want to get care during your pregnancy ?
    1. No
    2. Yes (please specify: _____

32. What did you like about the care you received during your pregnancy?
    _____

Below are some reasons that women have said made it **HARD** for them to get care during pregnancy or some reasons that made them **NOT WANT TO GO** to the office or clinic. Please circle the number of the response that indicates how important these reasons were to you when you made a decision about health care during pregnancy.

1-Not important
2-Slightly important
3-Moderately important
4-Important
5-Very important
6-This does not apply to me

	Not important	Slightly important	Moderately important	Important	Very important	This does not apply to me
33. I did not feel well.	1	2	3	4	5	6
34. I had difficulty getting transportation.	1	2	3	4	5	6
35.I could not afford transportation.	1	2	3	4	5	6
36. I had personal or family problems.	1	2	3	4	5	6
37. I had childcare problems.	1	2	3	4	5	6
38. I considered having an abortion.	1	2	3	4	5	6
39. I was not treated with respect	1	2	3	4	5	6
40. I did not have the money or insurance to pay for visits.	1	2	3	4	5	6
41. I was unhappy or had mixed feelings about being pregnant.	1	2	3	4	5	6
42. My other children or family members were sick.	1	2	3	4	5	6
43. I do not like going to the doctor unless I am sick.	1	2	3	4	5	6
44. I was unhappy with the health care I received in the past.	1	2	3	4	5	6
45. The office/clinic hours were at the wrong times for me.	1	2	3	4	5	6
46. I waited a long time at the clinic/office.	1	2	3	4	5	6
47. I worried about what the doctors or nurses thought of my life style.	1	2	3	4	5	6
48. My decisions about health care were not respected by my health care provider.	1	2	3	4	5	6

49. Were there any other reasons or problems that caused you not to seek prenatal care ?

1. No
2. Yes (please specify as many reasons as possible)

_____

_____

_____

50. What did you dislike about the care you received during your pregnancy ?

_____

_____

_____

APPENDIX C

Permission to Use Lia-Hoagberg Tool

UNIVERSITY OF MINNESOTA

Twin Cities Campus *School of Nursing*

6-101 Unit F
308 Harvard Street
Minneapolis, MN 55455-0342
612-624-9600
Fax: 612-626-2359

July 31, 1995

Christine M. Davis
7324 Reynolds Road
Horton, Michigan 49246

Dear Ms. Davis,

Thank you for your letter and telephone calls requesting our questionnaire on Barriers and Motivators for Prenatal Care Use. I have enclosed a copy for your thesis use.

Please give us credit for use of the instrument and I would also request a copy of your thesis abstract and any publications that you would do that utilize the instrument.

Best wishes in your research.

Sincerely,

[redacted]

Betty Lia-Hoagberg, PhD, RN
Associate Professor

APPENDIX D

GVSU Human Subjects Review Committee Permission to Administer Questionnaire

1 CAMPUS DRIVE • ALLENDALE MICHIGAN 49401-9403 • 616/895-6611

June 13, 1996

Christine M. Davis
7324 Reynolds Rd.
Horton, MI 49246

Dear Christine:

Your proposed project entitled "*Perceived Barriers and Motivators to Prenatal Care*" has been reviewed. It has been approved as a study which is exempt from the regulations by section 46.101 of the Federal Register 46(16):8336, January 26, 1981.

Sincerely,

[redacted]

Paul Huizenga, Chair
Human Research Review Committee

APPENDIX E

June 3, 1996

To Whom It May Concern:

As director of clinical research at the Center For Family Health, I give Christine Davis permission to administer a Prenatal Care Survey to our clients.

Colleen B. Chadderton, RNC, MSN, CPNP
Center For Family Health
720 W. Michigan Avenue
Jackson, Michigan 49202

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